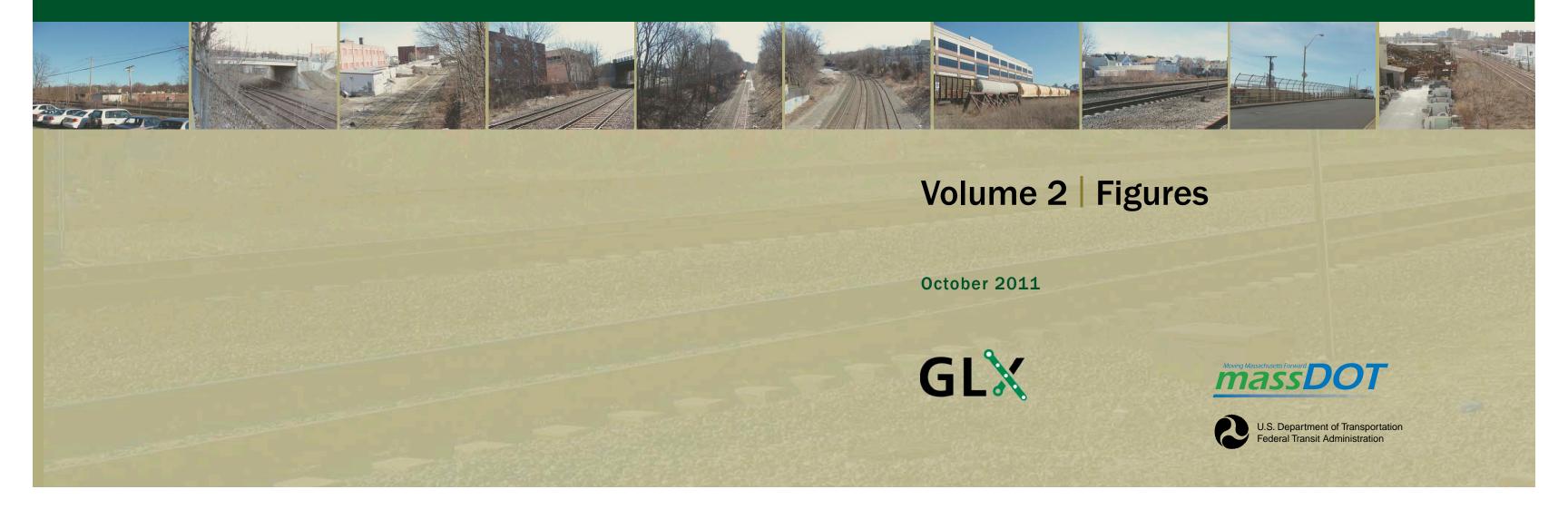


Environmental Assessment and Section 4(f) Evaluation

Green Line Extension Project



List of Figures

All figures are provided in Volume 2 except as indicated otherwise below.

Figure	Description	Page
1.1-1	Project Study Area	
1.1-2	Proposed Action	
1.2-1	Baseline Alternative	
4.4-1	Station Locus Map (Sheet 1 of 2)	
4.4-2	Station Locus Map (Sheet 2 of 2)	
4.4-3	Relocated Lechmere Station Site Plan	
4.4-4	Relocated Lechmere Station Cross Section	
4.4-5	Washington Street Station Site Plan	
4.4-6	Washington Street Station Cross Section	
4.4-7	Gilman Square Station Site Plan	
4.4-8	Gilman Square Station Cross Section	
4.4-9	Lowell Street Station Site Plan	
4.4-10	Lowell Street Station Cross Section	
4.4-11	Ball Square Station Site Plan	
4.4-12	Ball Square Station Cross Section	
4.4-13	College Avenue Station Site Plan	
4.4-14	College Avenue Station Cross Section	
4.4-15	Union Square Station Site Plan	
4.4-16	Union Square Station Cross Section	
4.4-17	Maintenance and Storage Facility – Option L Site	
4.4-18	Existing Section along Medford Branch Looking North (in text)	4-22
4.4-19	Proposed Section along Medford Branch Looking North (in text)	4-22
4.4-20	Typical Construction Sequence	
5.1-1	Existing Conditions (Sheet 1 of 9)	
5.1-2	Existing Conditions (Sheet 2 of 9)	
5.1-3	Existing Conditions (Sheet 3 of 9)	
5.1-4	Existing Conditions (Sheet 4 of 9)	
5.1-5	Existing Conditions (Sheet 5 of 9)	
5.1-6	Existing Conditions (Sheet 6 of 9)	
5.1-7	Existing Conditions (Sheet 7 of 9)	
5.1-8	Existing Conditions (Sheet 8 of 9)	
5.1-9	Existing Conditions (Sheet 9 of 9)	
5.2-1	TAZ Demographic Analysis for Stations	
5.2-2	Existing Land Use – Relocated Lechmere Station	
5.2-3	Existing Land Use – Washington Street Station	
5.2-4	Existing Land Use – Gilman Square Station	
5.2-5	Existing Land Use – Lowell Street Station	
5.2-6	Existing Land Use – Ball Square Station	

Figure	Description	Page
5.2-7	Existing Land Use – College Avenue Station	
5.2-8	Existing Land Use – Union Square Station	
5.2-9	Primary Use Zoning – Cities of Somerville, Medford and Cambridge	
5.4-1	Environmental Justice Populations	
5.5-1	Existing and Proposed MBTA Bus and Transit System	
5.5-2	Existing MBTA Commuter Rail Routes	
5.5-3	Existing Freight Rail Routes	
5.6-1	Traffic Study Intersections	
5.7-1	Microscale Air Quality Study Intersections	
5.8-1	Typical A-Weighted Sound Levels (in text)	5-64
5.8-2	Examples of Typical Outdoor Noise Exposure (in text)	5-65
5.8-3	Noise and Vibration Measurement Sites	
5.9-1	Typical Ground-Borne Vibration Levels and Criteria (in text)	5-72
5.9-2	Vibration Levels of Selected Trains and FTA Generalized Curves (in text)	5-76
5.10-1	Project Study Area Watersheds	
5.15-1	Location of Historic Properties Identified within the Project Area of Potential Effect (Sheet 1 of 9)	
5.15-2	Location of Historic Properties Identified within the Project Area of Potential Effect (Sheet 2 of 9)	
5.15-3	Location of Historic Properties Identified within the Project Area of Potential Effect (Sheet 3 of 9)	
5.15-4	Location of Historic Properties Identified within the Project Area of Potential Effect (Sheet 4 of 9)	
5.15-5	Location of Historic Properties Identified within the Project Area of Potential Effect (Sheet 5 of 9)	
5.15-6	Location of Historic Properties Identified within the Project Area of Potential Effect (Sheet 6 of 9)	
5.15-7	Location of Historic Properties Identified within the Project Area of Potential Effect (Sheet 7 of 9)	
5.15-8	Location of Historic Properties Identified within the Project Area of Potential Effect (Sheet 8 of 9)	
5.15-9	Location of Historic Properties Identified within the Project Area of Potential Effect (Sheet 9 of 9)	
6.2-1	Proposed Property Acquisitions in the Vicinity of Lechmere Station	
6.2-2	Proposed Property Acquisitions in the Vicinity of the Option L Maintenance and Stor Facility	rage
6.2-3	Proposed Property Acquisitions in the Vicinity of Washington Street Station	
6.2-4	Proposed Property Acquisitions in the Vicinity of Gilman Square Station	

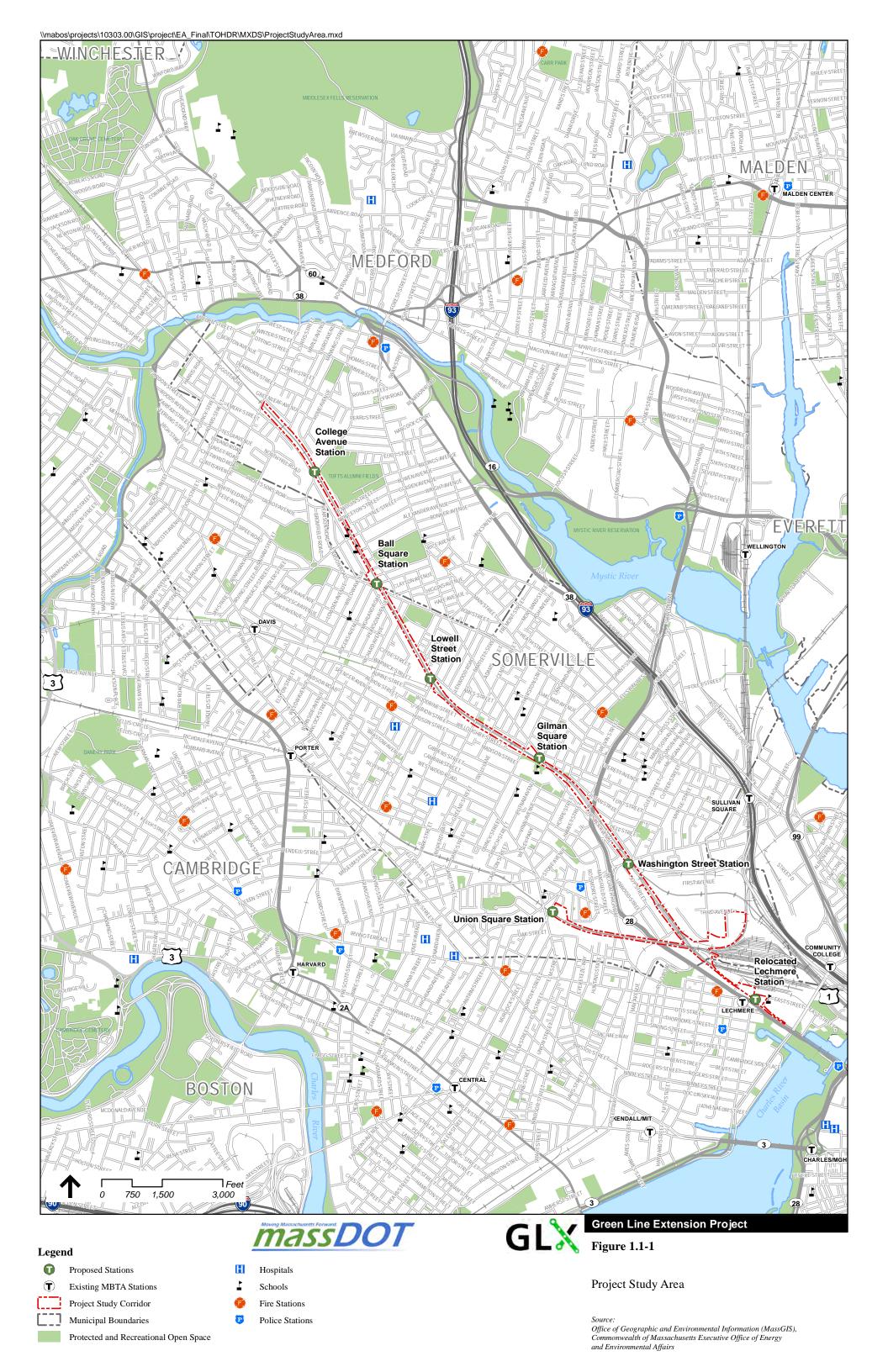
List of Figures

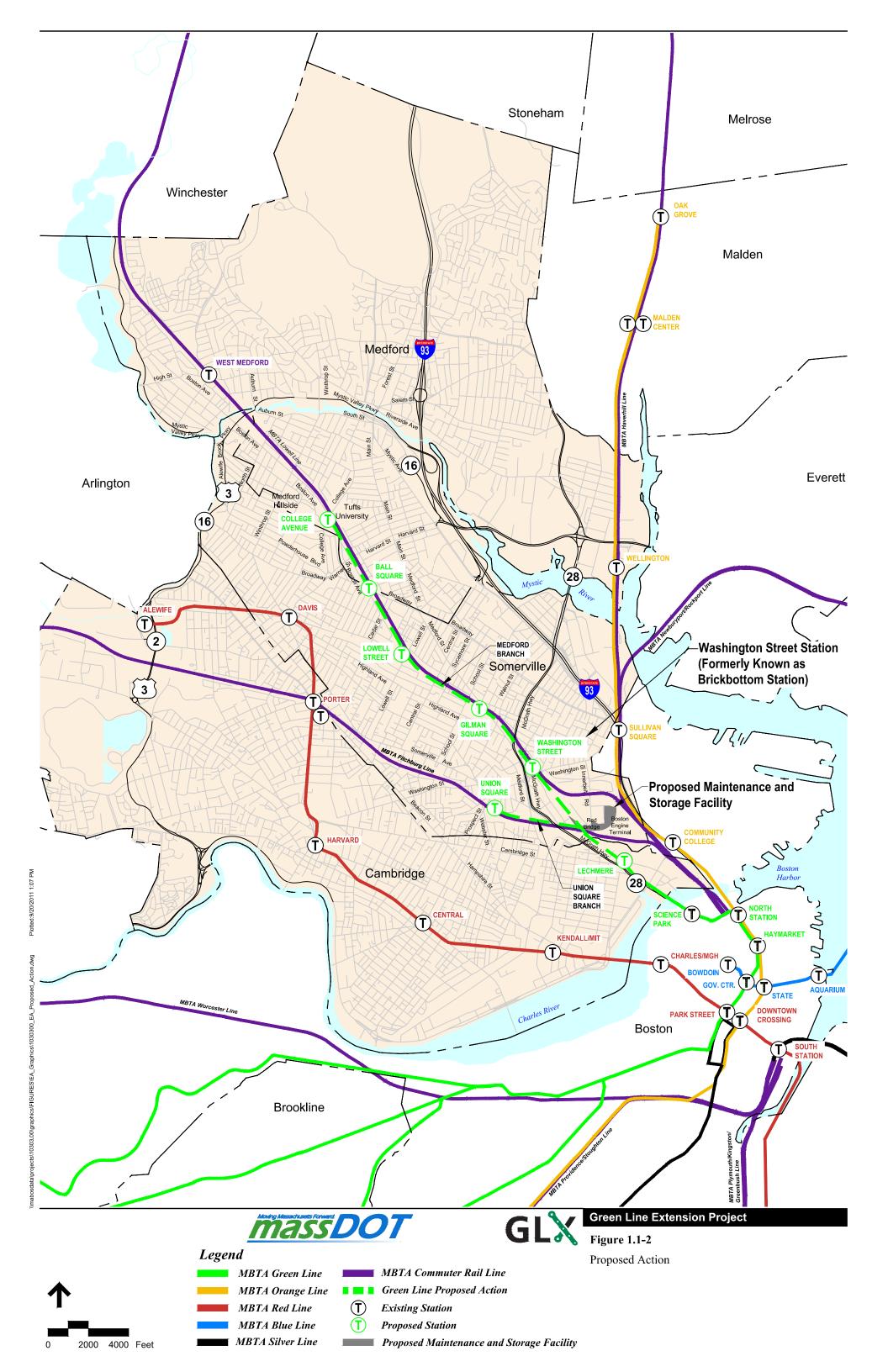
Green Line Extension Project

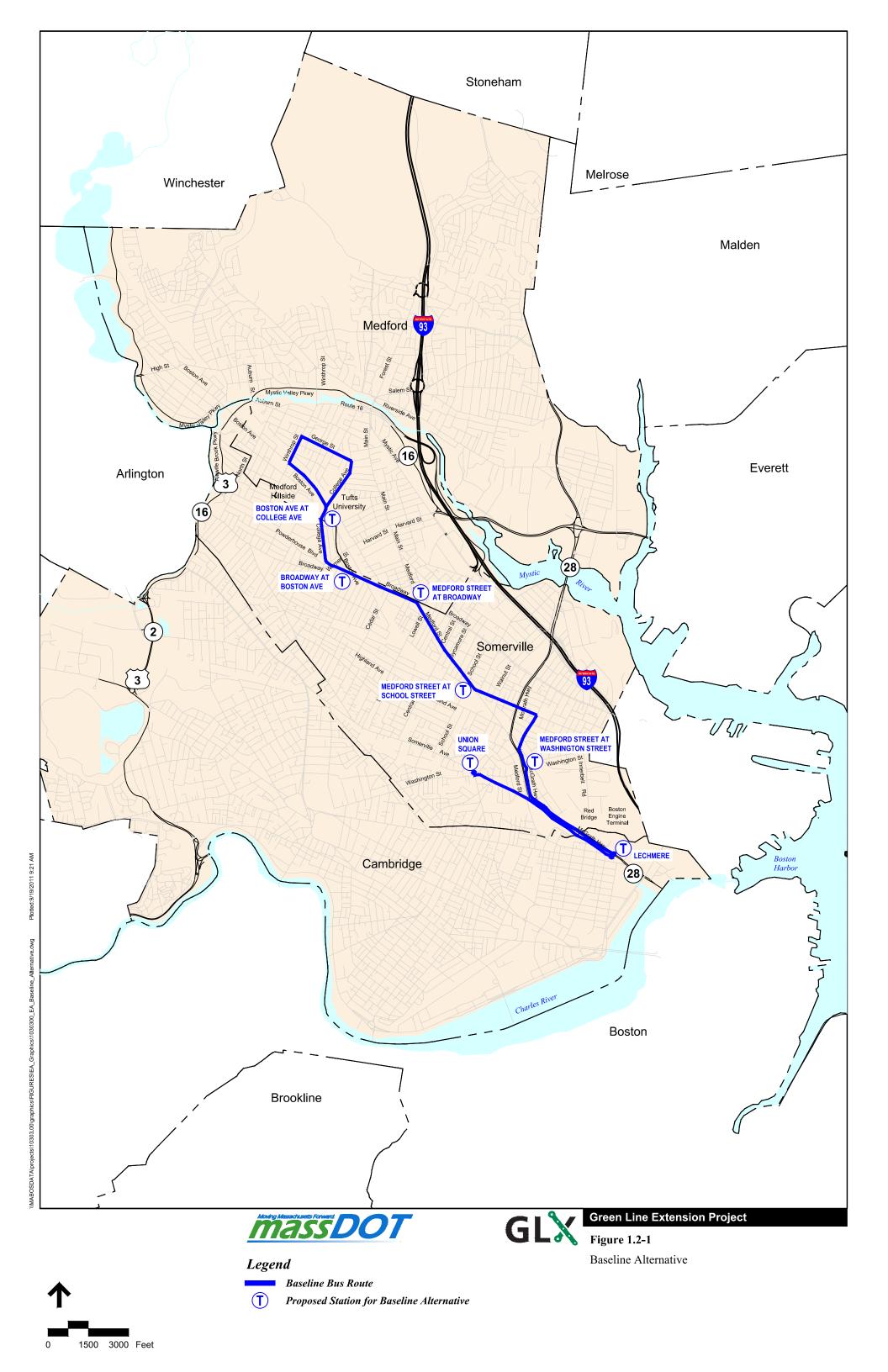
Environmental Assessment and Section 4(f) Evaluation
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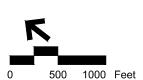
Figure	Description Page
6.2-5	Proposed Property Acquisitions in the Vicinity of Lowell Street Station
6.2-6	Proposed Property Acquisitions in the Vicinity of Ball Square Station
6.2-7	Proposed Property Acquisitions in the Vicinity of College Avenue Station
6.2-8	Proposed Property Acquisitions in the Vicinity of Union Square Station
6.6-1	Mesoscale Mobile Source Analysis Results (kilograms per day) (in text)6-58
6.6-2	Mobile Source Air Toxics Emissions (in text)6-61
6.7-1	Noise and Vibration Measurement Sites and Proposed Mitigation Locations
6.7-2	Noise Impacts and Mitigation Measures (Sheet 1 of 5)
6.7-3	Noise Impacts and Mitigation Measures (Sheet 2 of 5)
6.7-4	Noise Impacts and Mitigation Measures (Sheet 3 of 5)
6.7-5	Noise Impacts and Mitigation Measures (Sheet 4 of 5)
6.7-6	Noise Impacts and Mitigation Measures (Sheet 5 of 5)
6.7-7	Increase in Cumulative Noise Levels Allowed by FTA Criteria (in text)6-71
6.8-1	Vibration Impacts and Mitigation Measures (Sheet 1 of 5)
6.8-2	Vibration Impacts and Mitigation Measures (Sheet 2 of 5)
6.8-3	Vibration Impacts and Mitigation Measures (Sheet 3 of 5)
6.8-4	Vibration Impacts and Mitigation Measures (Sheet 4 of 5)
6.8-5	Vibration Impacts and Mitigation Measures (Sheet 5 of 5)
6.8-6	Criteria for Detailed Vibration Analysis (in text)
6.9-1	Proposed Stormwater Drainage Areas and Discharge Points
6.13-1	Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures (Sheet 1 of 9)
6.13-2	Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures (Sheet 2 of 9)
6.13-3	Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures (Sheet 3 of 9)
6.13-4	Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures (Sheet 4 of 9)
6.13-5	Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures (Sheet 5 of 9)
6.13-6	Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures (Sheet 6 of 9)
6.13-7	Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures (Sheet 7 of 9)
6.13-8	Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures (Sheet 8 of 9)
6.13-9	Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures (Sheet 9 of 9)
6.15-1	Proposed and Reasonably Foreseeable Projects
7.7-1	Examples of Noise Barrier Materials
8.6-1	Lechmere Viaduct and Station Location Options
8.6-2	Ball Square Station Location Options
8.6-3	Gilman Square Station Location Options

List of Figures i







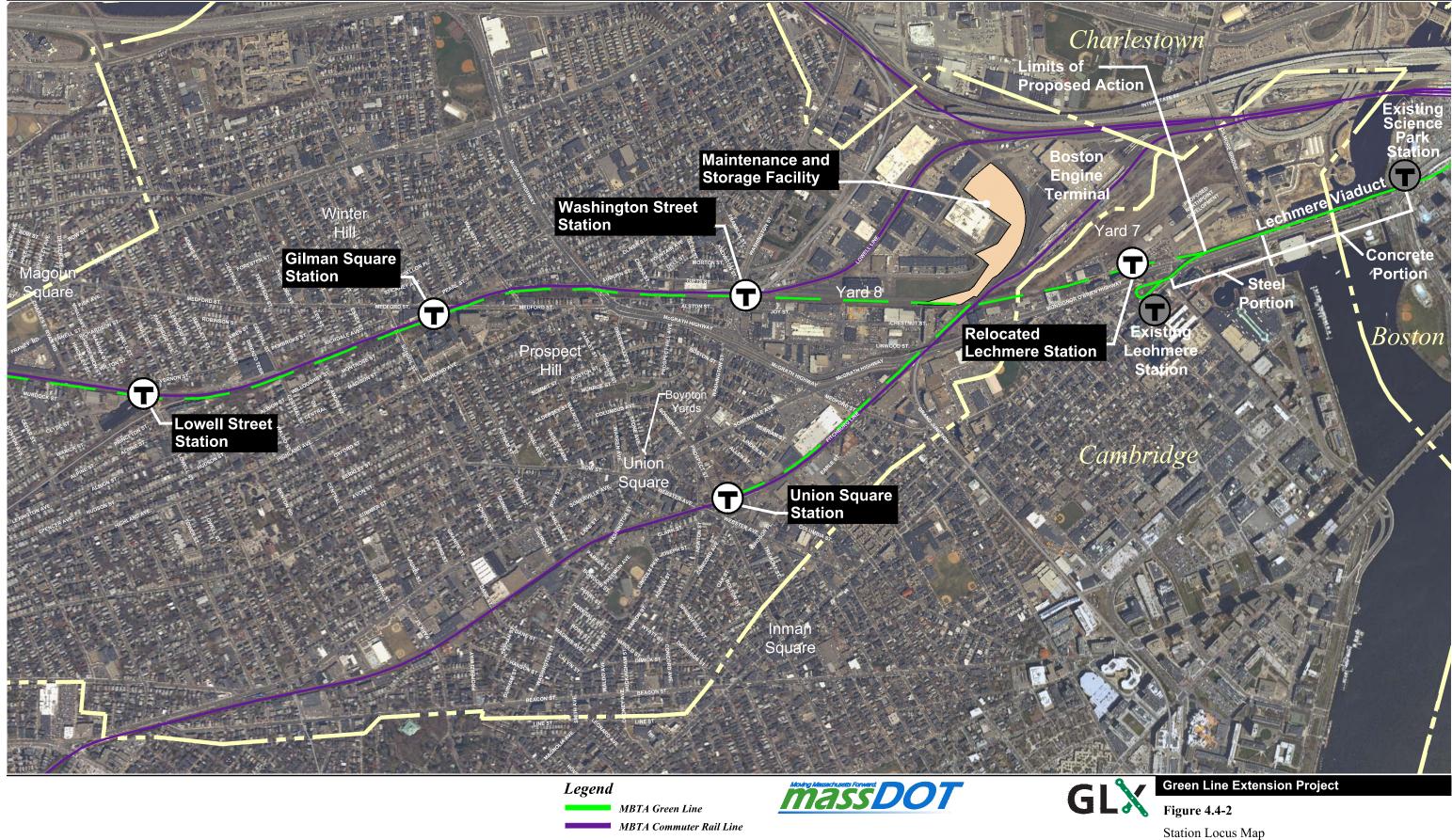


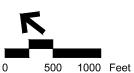
MBTA Green Line MBTA Commuter Rail Line Other Rail Right-of-Way Proposed Green Line Extension Proposed Station

Existing Station

Figure 4.4-1

Station Locus Map Sheet 1 of 2





MBTA Green Line

MBTA Commuter Rail Line

Other Rail Right-of-Way

Proposed Green Line Extension

Proposed Station

Existing Station

Station Locus Map Sheet 2 of 2

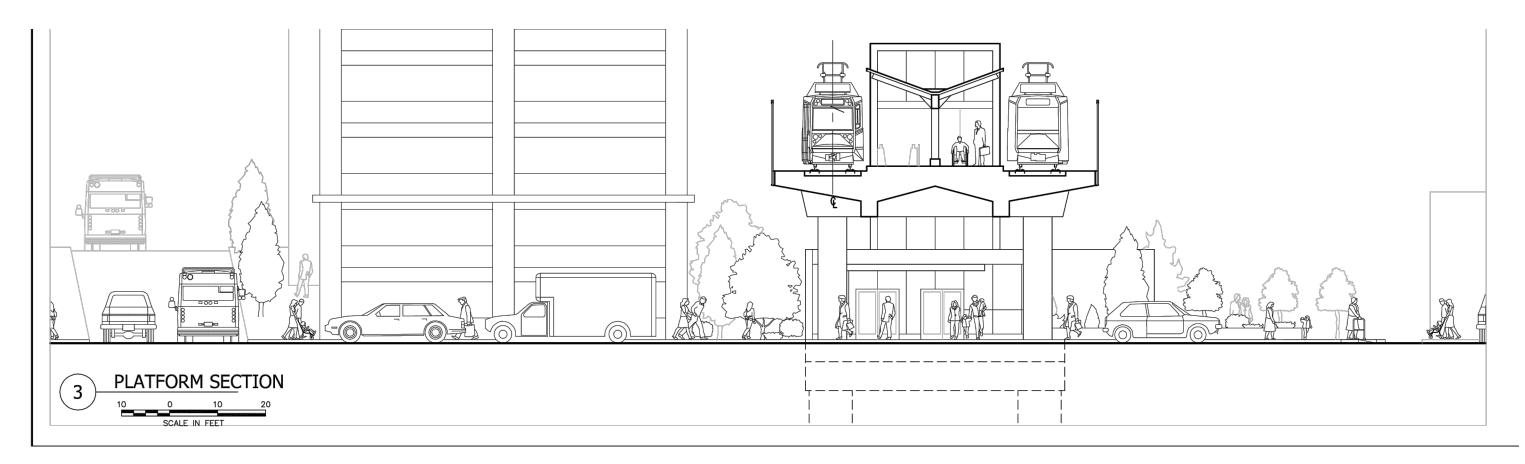
Pick-Up/Drop-Off Area

Proposed Emergency Egress

New Sidewalk

New Landscaping



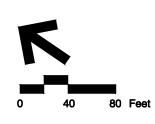


LOOKING NORTHWEST





Green Line Extension Project



MBTA Bus Stop Proposed Traffic Signal Bicycle Storage Existing Crosswalks Proposed Crosswalks Pick-Up/Drop-Off Area Proposed Emergency Egress Platform Upper Level Lobby Lower Level Lobby Service Areas Stairs, Elevators, Escalators, Ramps

New Sidewalk

New Landscaping

MBTA "THE RIDE" Parking

massDOT



Figure 4.4-5

Washington Street Station Site Plan

LOOKING SOUTH

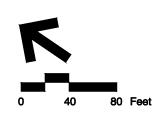


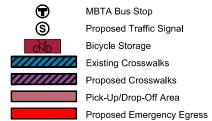


Green Line Extension Project

Figure 4.4-6

Washington Street Station Cross Section





Legend

MBTA Bus Stop Proposed Traffic Signal Bicycle Storage **Existing Crosswalks** Proposed Crosswalks Pick-Up/Drop-Off Area

Upper Level Lobby

Stairs, Elevators, Escalators, Ramps

Lower Level Lobby

Service Areas

New Sidewalk

New Landscaping



MBTA "THE RIDE" Parking



GL3

Figure 4.4-7

Gilman Square Station Site Plan

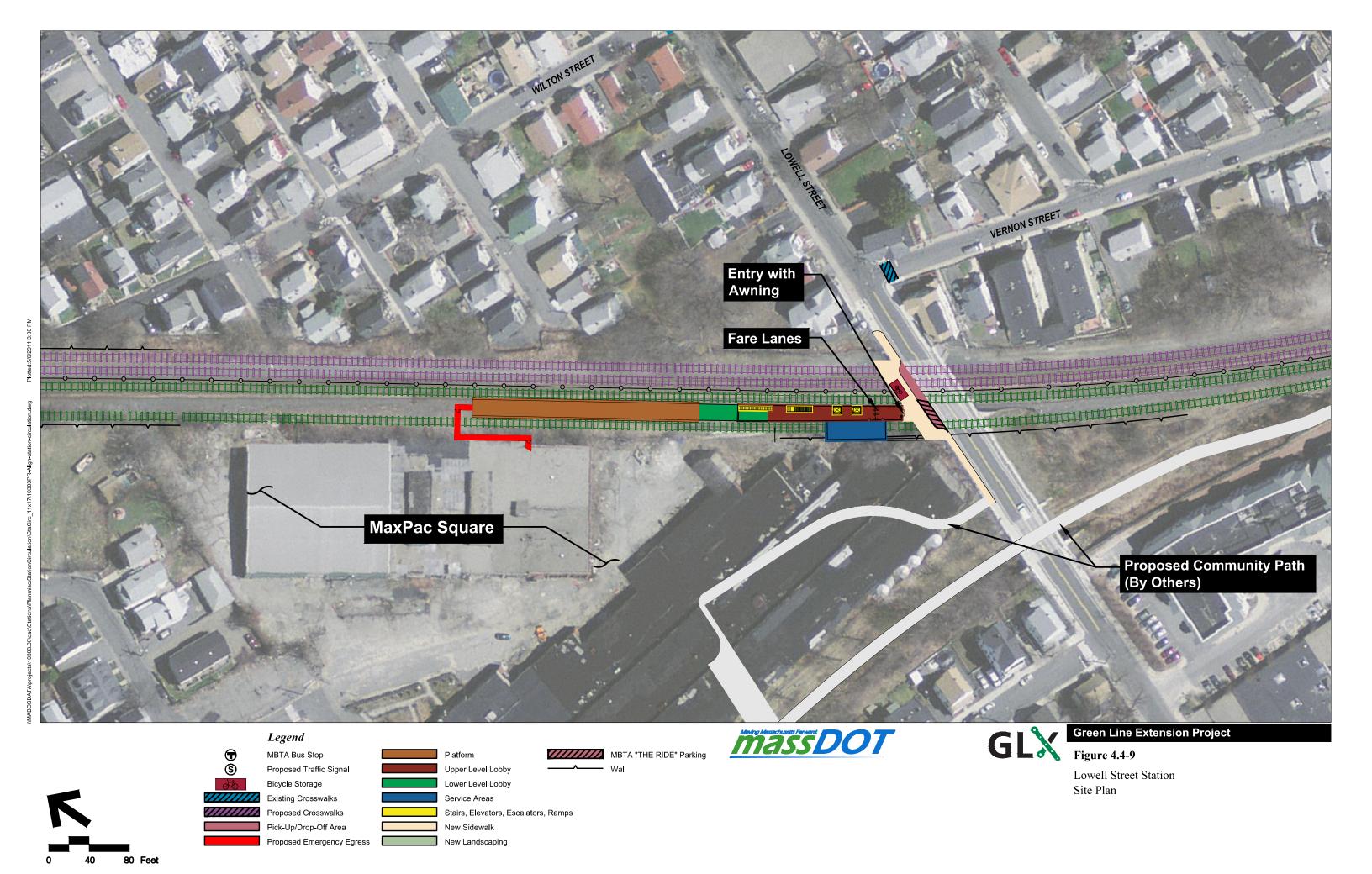
MEDFORD STREET

PLATFORM SECTION

SCALE IN FEET

LOOKING SOUTH

Gilman Square Station Cross Section



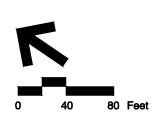




LOOKING SOUTH







MBTA Bus Stop Proposed Traffic Signal Bicycle Storage Existing Crosswalks Proposed Crosswalks Pick-Up/Drop-Off Area Proposed Emergency Egress

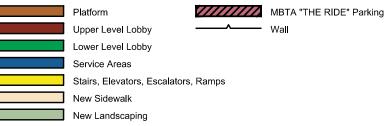
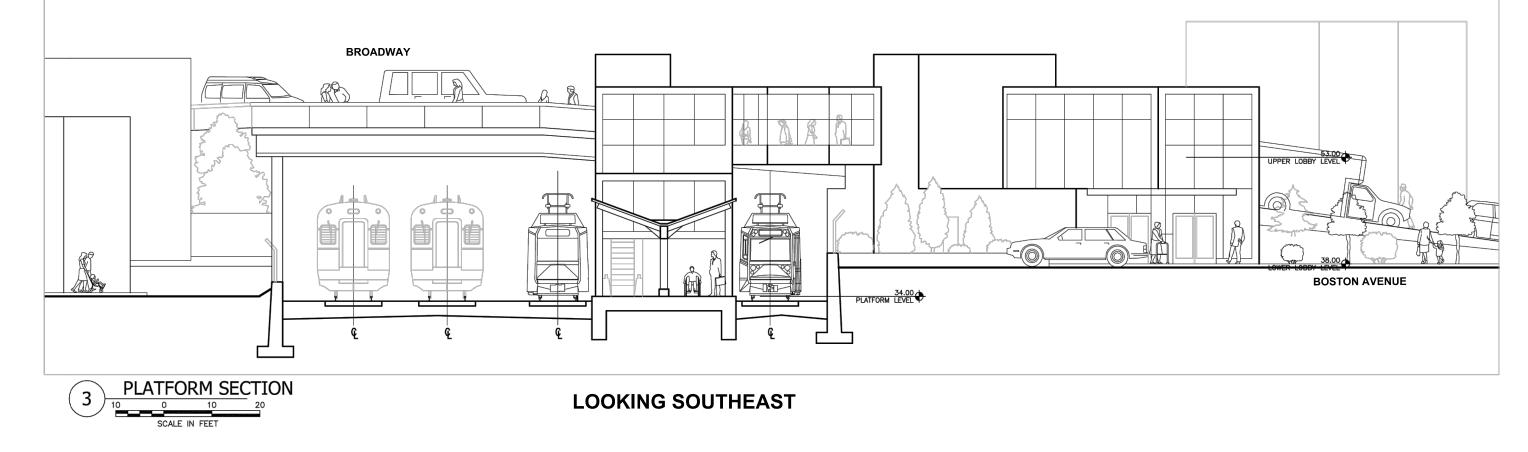




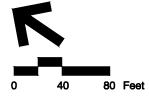
Figure 4.4-11

Ball Square Station Site Plan









Proposed Traffic Signal

Bicycle Storage Existing Crosswalks Proposed Crosswalks Pick-Up/Drop-Off Area

Proposed Emergency Egress

Upper Level Lobby Lower Level Lobby

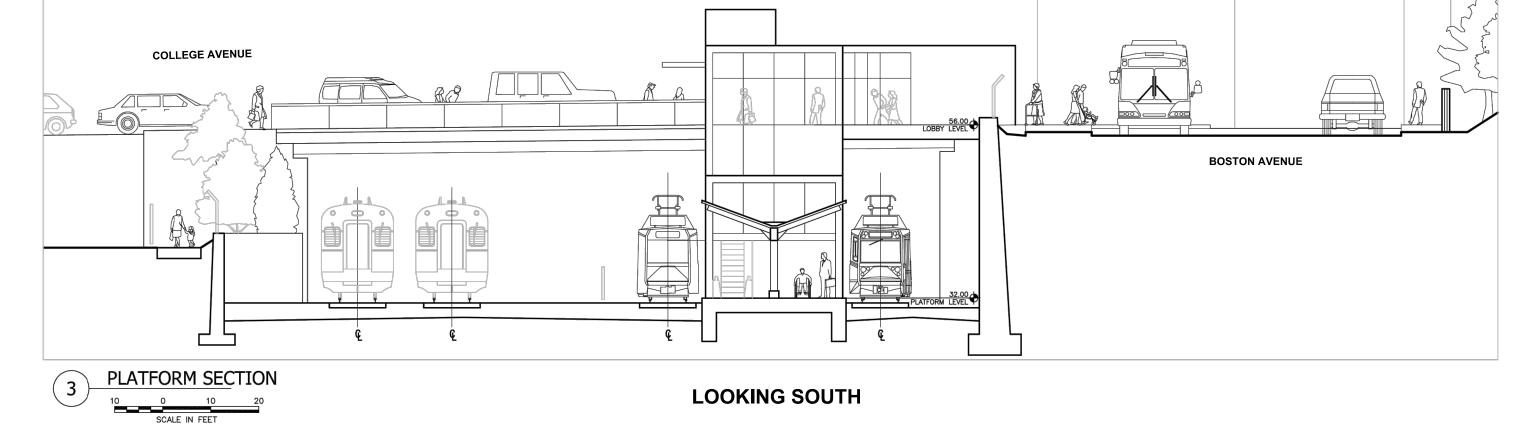
New Sidewalk

New Landscaping

Service Areas

Stairs, Elevators, Escalators, Ramps

College Avenue Station Site Plan







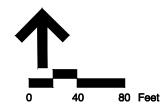




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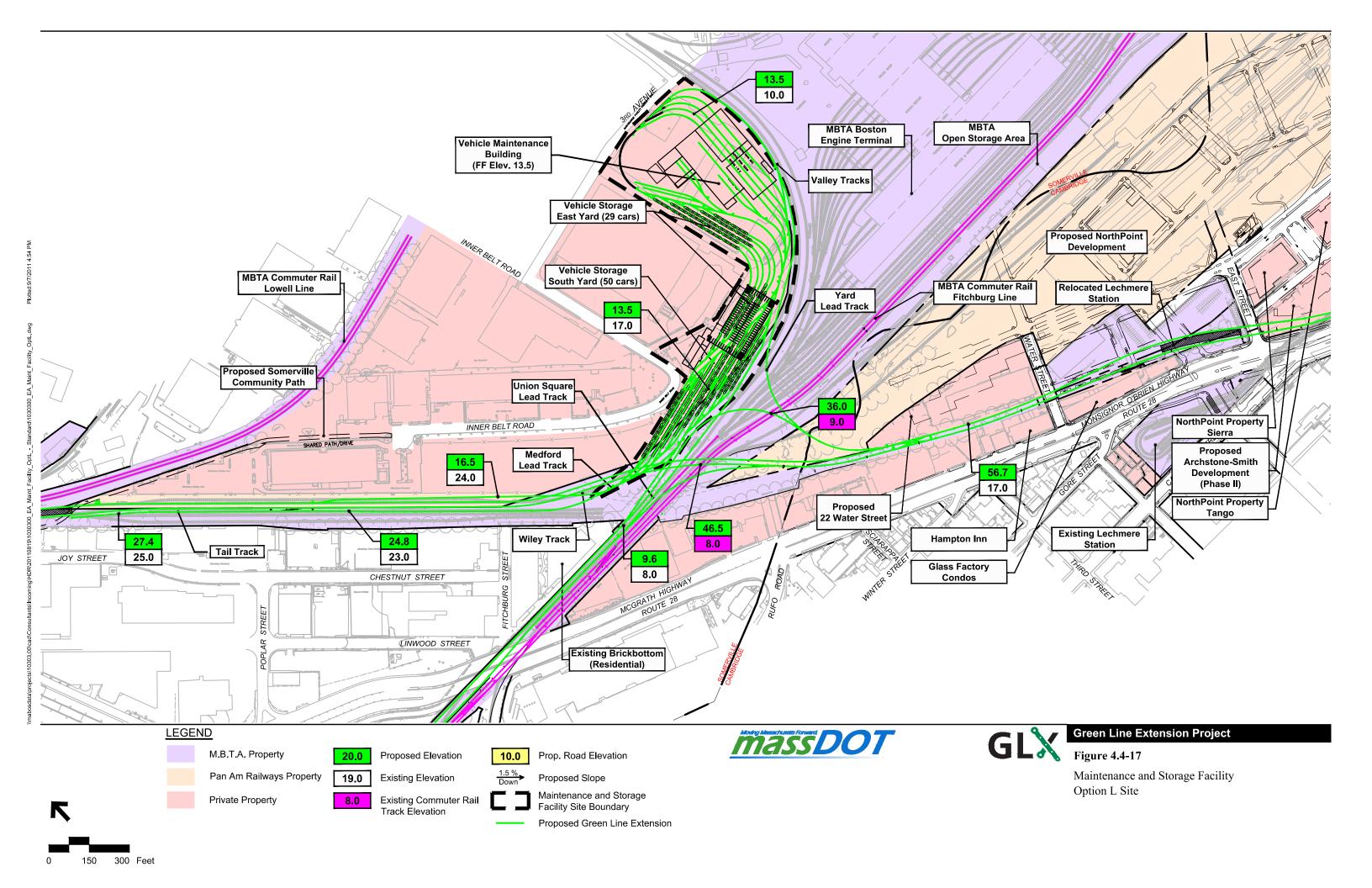
Union Square Station Site Plan

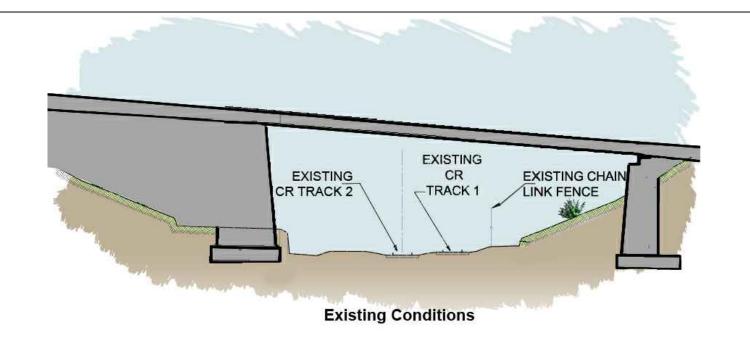


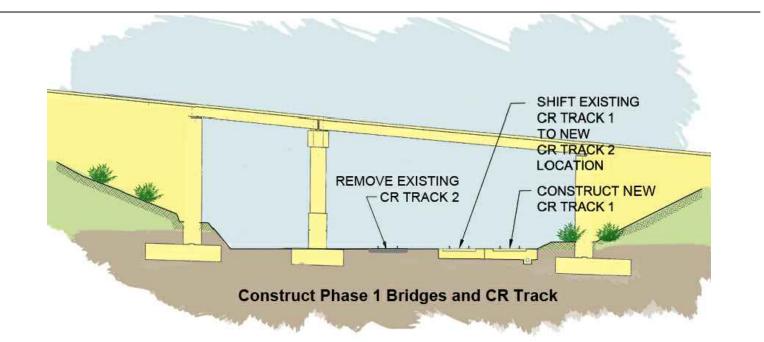


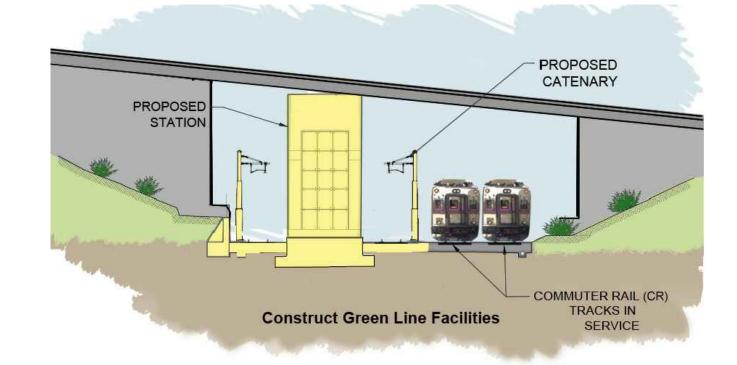


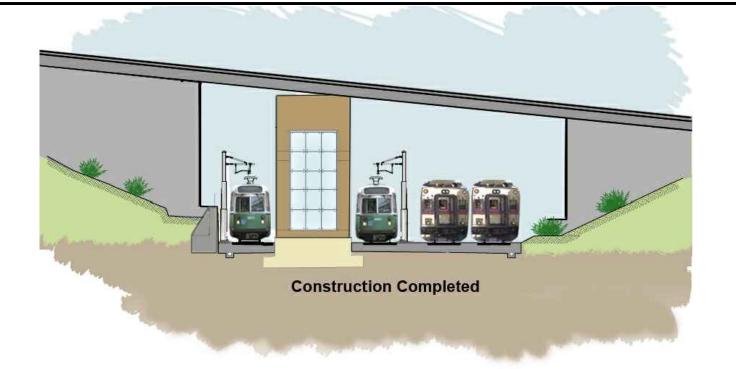












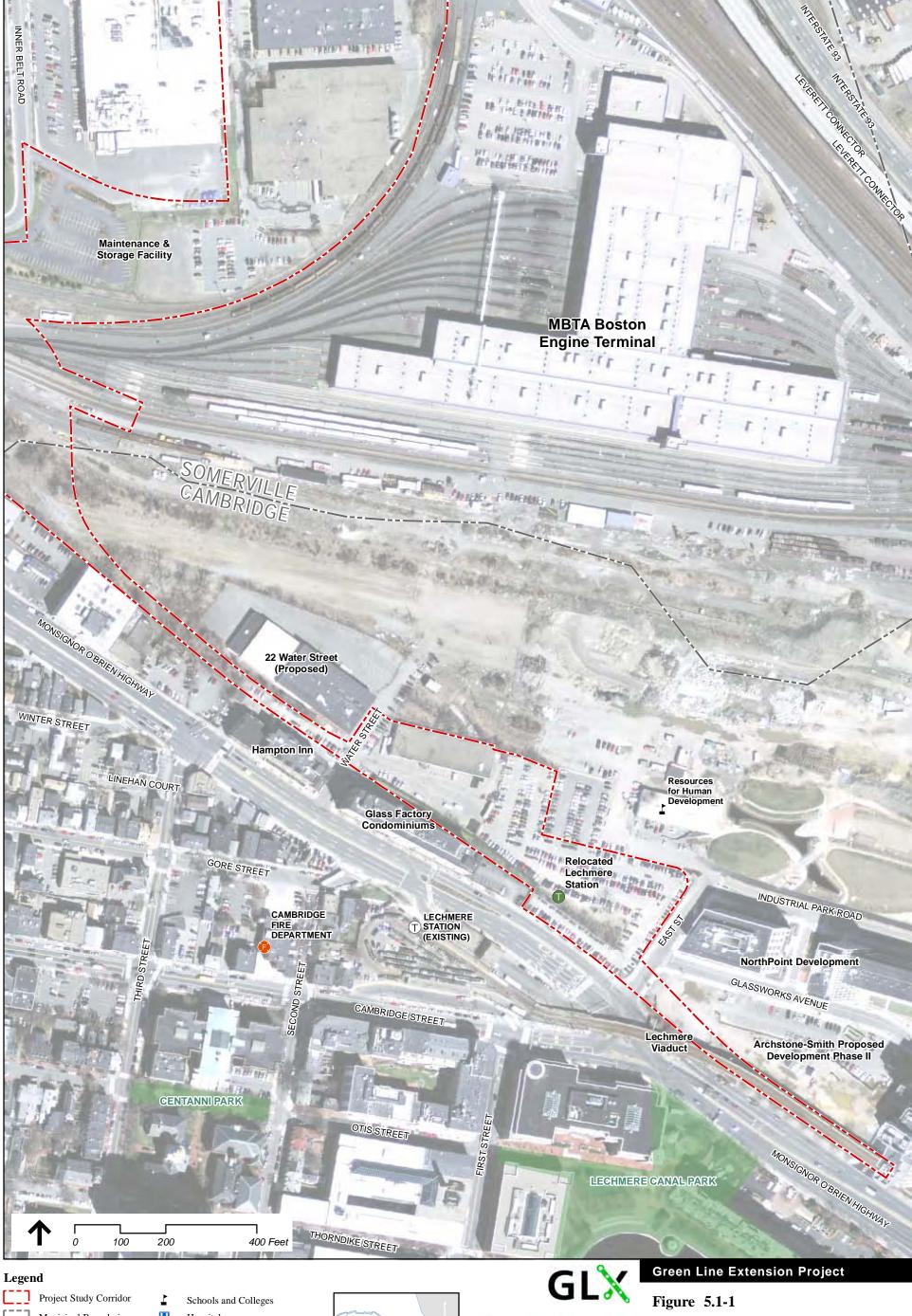




Green Line Extension Project

Figure 4.4-20

Typical Construction Sequence





Project Study Corridor

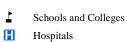
Municipal Boundaries

Proposed Stations

Existing MBTA Stations

Public Facilities

Protected and Recreational Open Space



Fire Stations

Police Stations Religious Insitutions

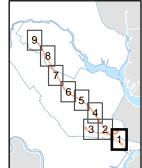




Figure 5.1-1

massDOT **Existing Conditions**

Sheet 1 of 9

Source:





Municipal Boundaries

Proposed Stations

Existing MBTA Stations

Public Facilities Protected and Recreational Open Space

Schools and Colleges Hospitals

Fire Stations

Police Stations



Figure 5.1-2

Existing Conditions

Sheet 2 of 9

Moving Massachusetts Forward.

MassSDOT



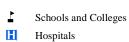
Legend

Project Study Corridor Municipal Boundaries

Proposed Stations

Existing MBTA Stations

Public Facilities Protected and Recreational Open Space



Fire Stations

Police Stations

Religious Insitutions





Existing Conditions

Sheet 3 of 9





Municipal Boundaries

Proposed Stations

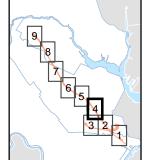
Existing MBTA Stations

Public Facilities Protected and Recreational

Open Space

Fire Stations

Police Stations Religious Insitutions

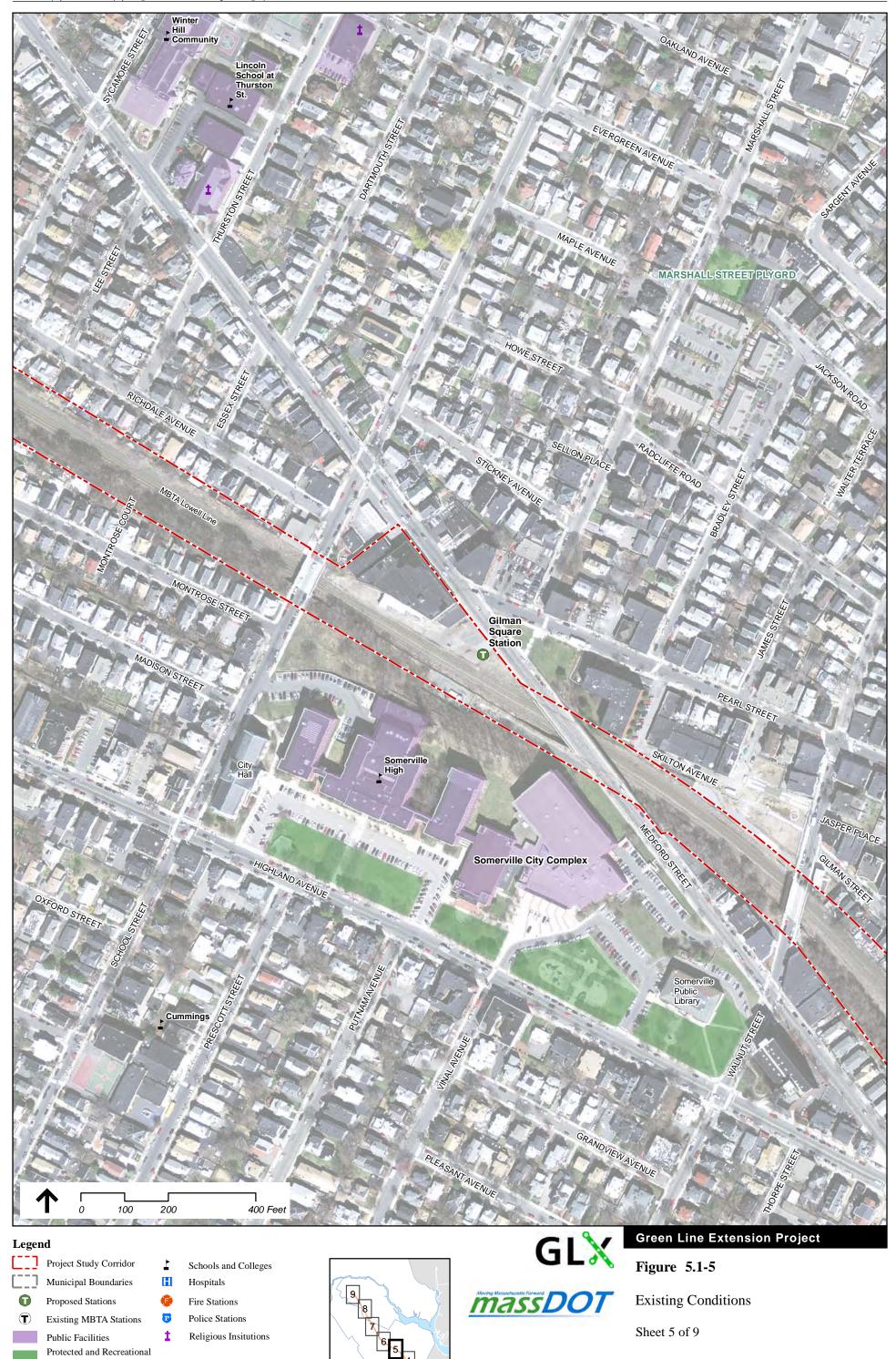


Massachusetts Forward.

Massachusetts Forward. **Existing Conditions**

Sheet 4 of 9

Open Space







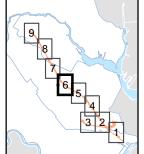
Proposed Stations

Existing MBTA Stations

Public Facilities Protected and Recreational Open Space

Fire Stations Police Stations

Religious Insitutions



Moving Massachusetts Forward.

MassSDOT **Existing Conditions**

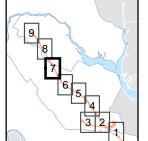
Sheet 6 of 9



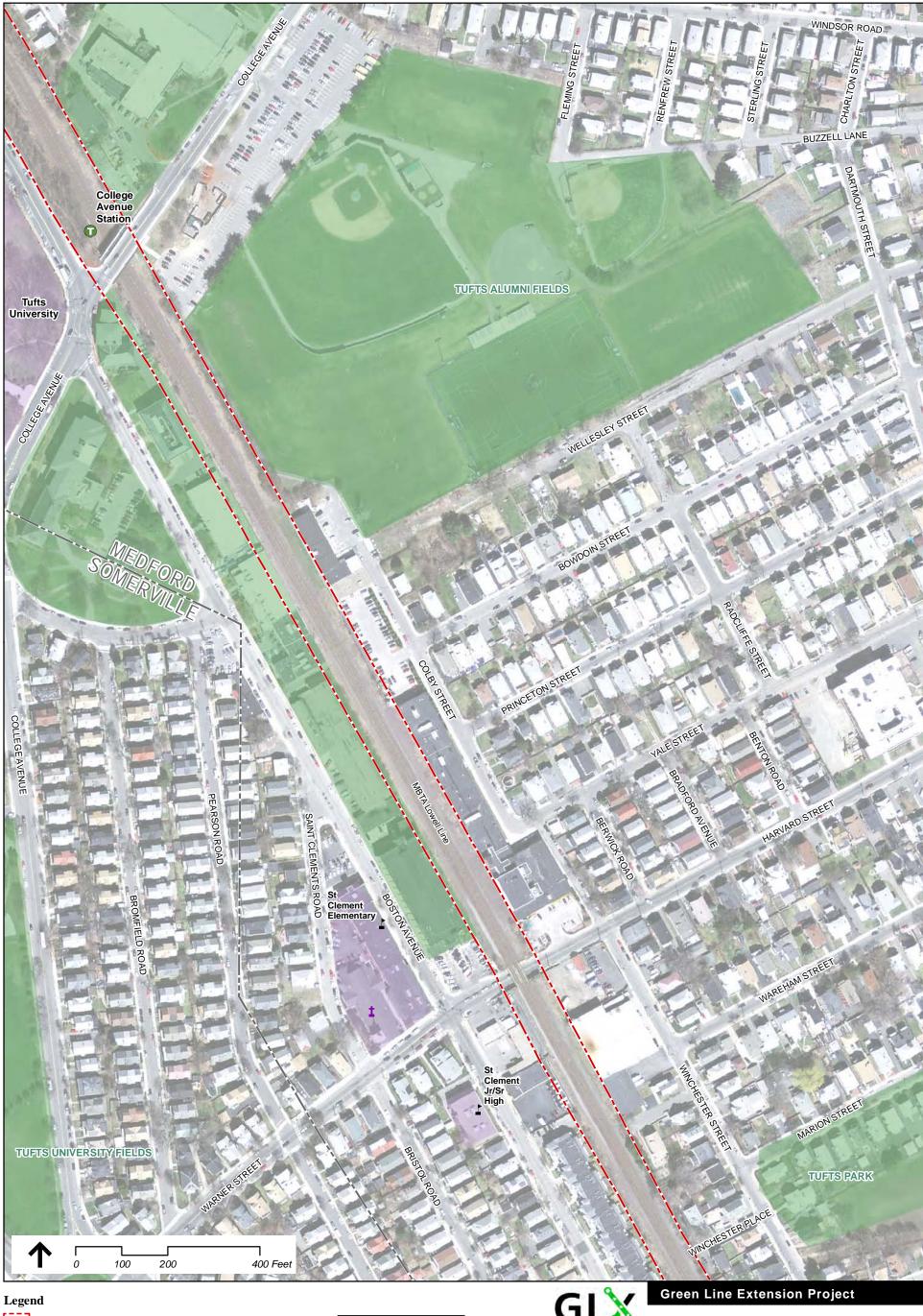
Open Space

Public Facilities Protected and Recreational

Religious Insitutions



Sheet 7 of 9





Project Study Corridor Municipal Boundaries

Proposed Stations

Existing MBTA Stations

Public Facilities Protected and Recreational Open Space

Schools and Colleges

Hospitals Fire Stations Police Stations

Religious Insitutions



Moving Massachusetts Forward.

Massachusetts Forward.

Moving Massachusetts Forward.



Existing Conditions

Sheet 8 of 9





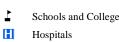




Proposed Stations

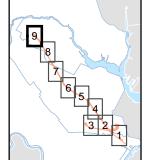
Existing MBTA Stations

Public Facilities Protected and Recreational Open Space



Fire Stations Police Stations

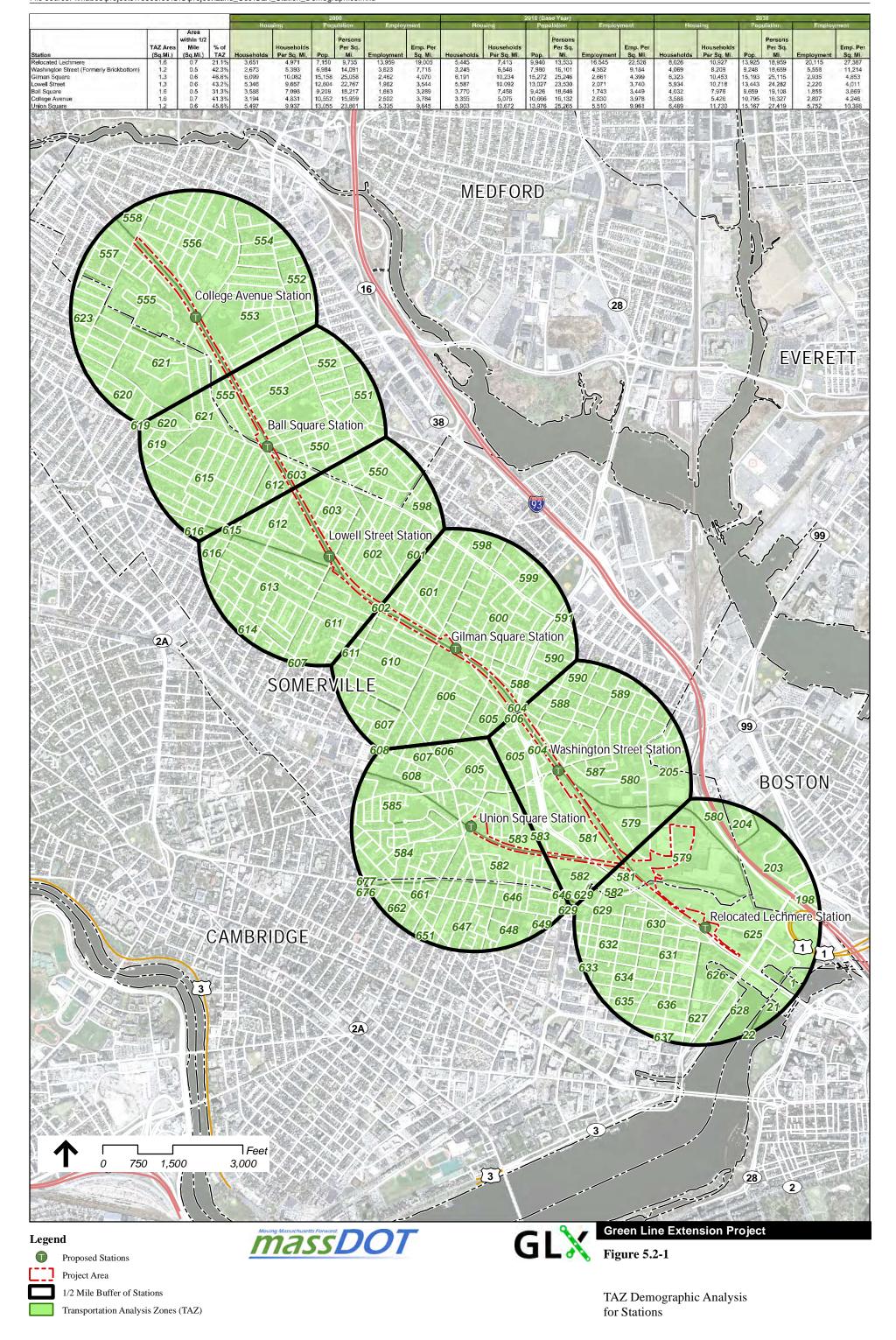
Religious Insitutions

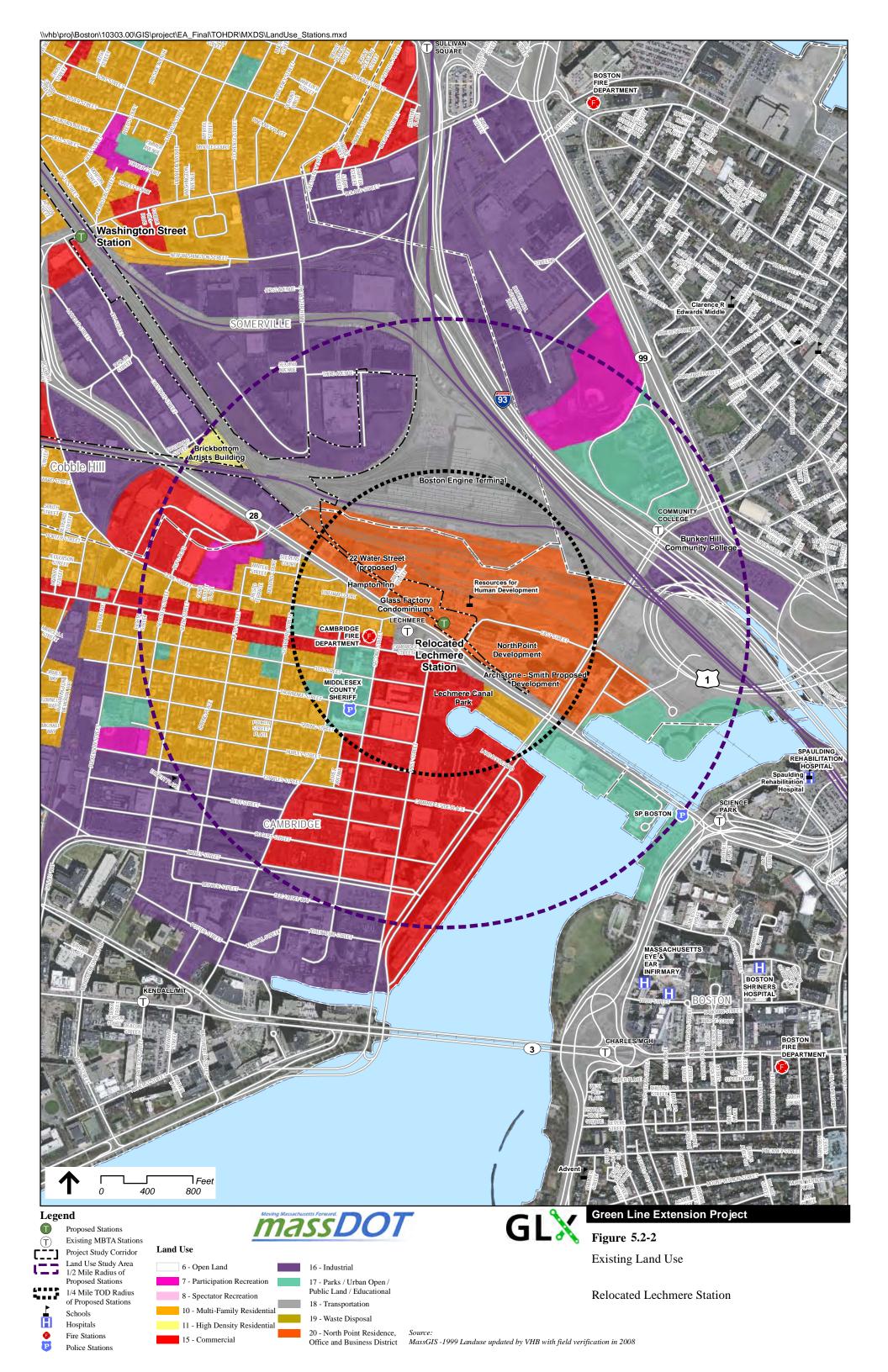


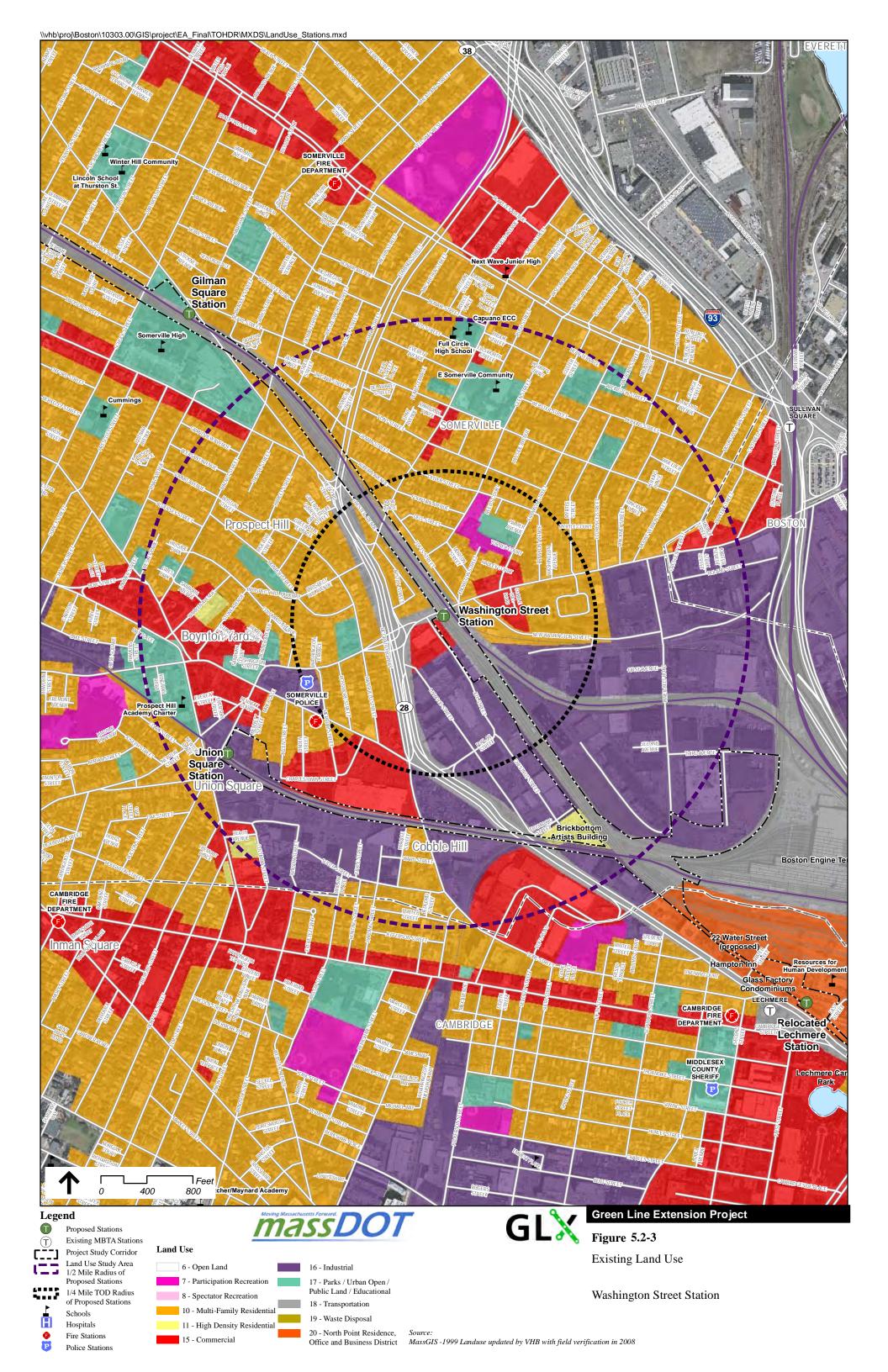
Moving Massachusetts Forward.

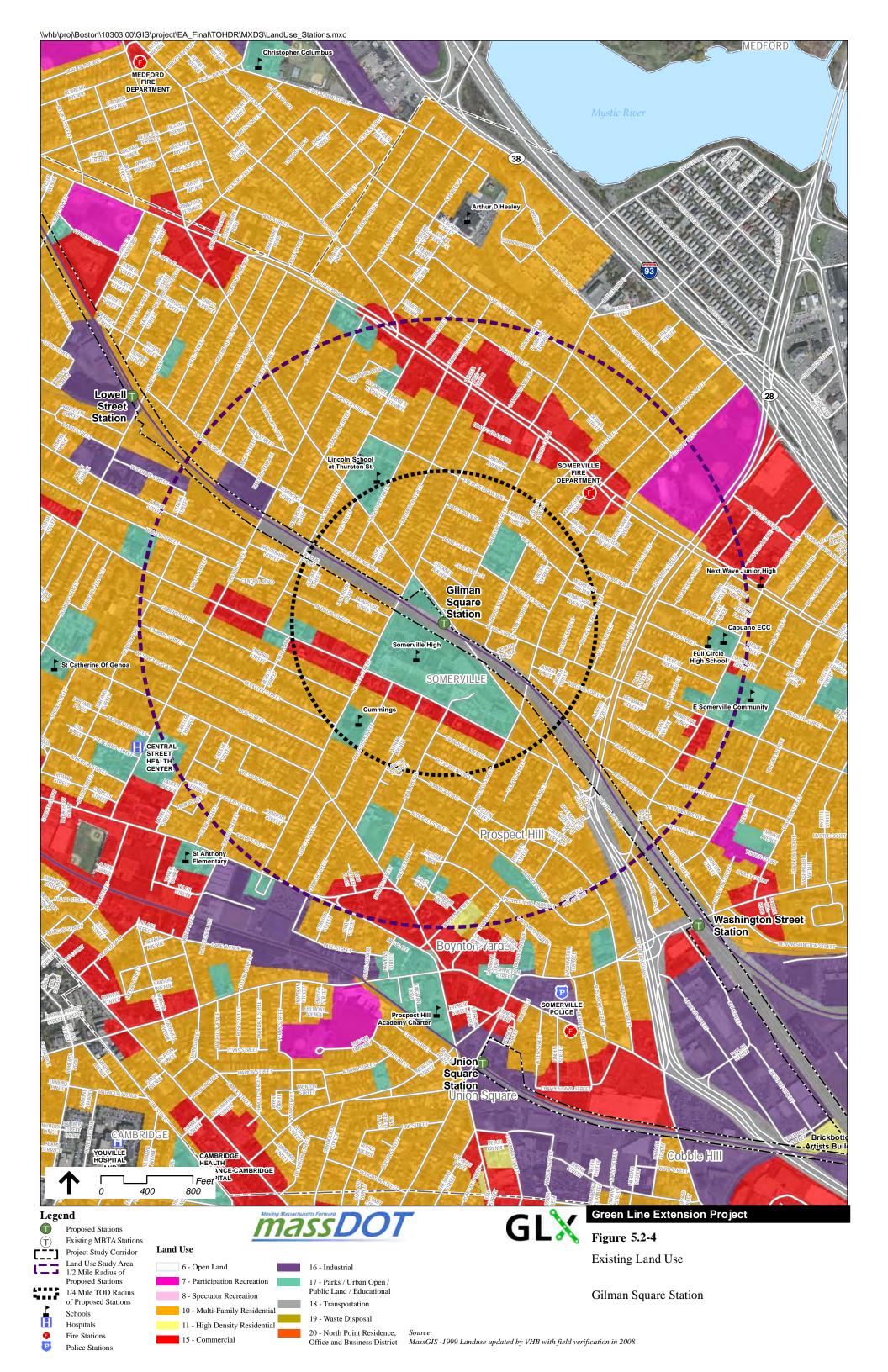
MassSDOT **Existing Conditions**

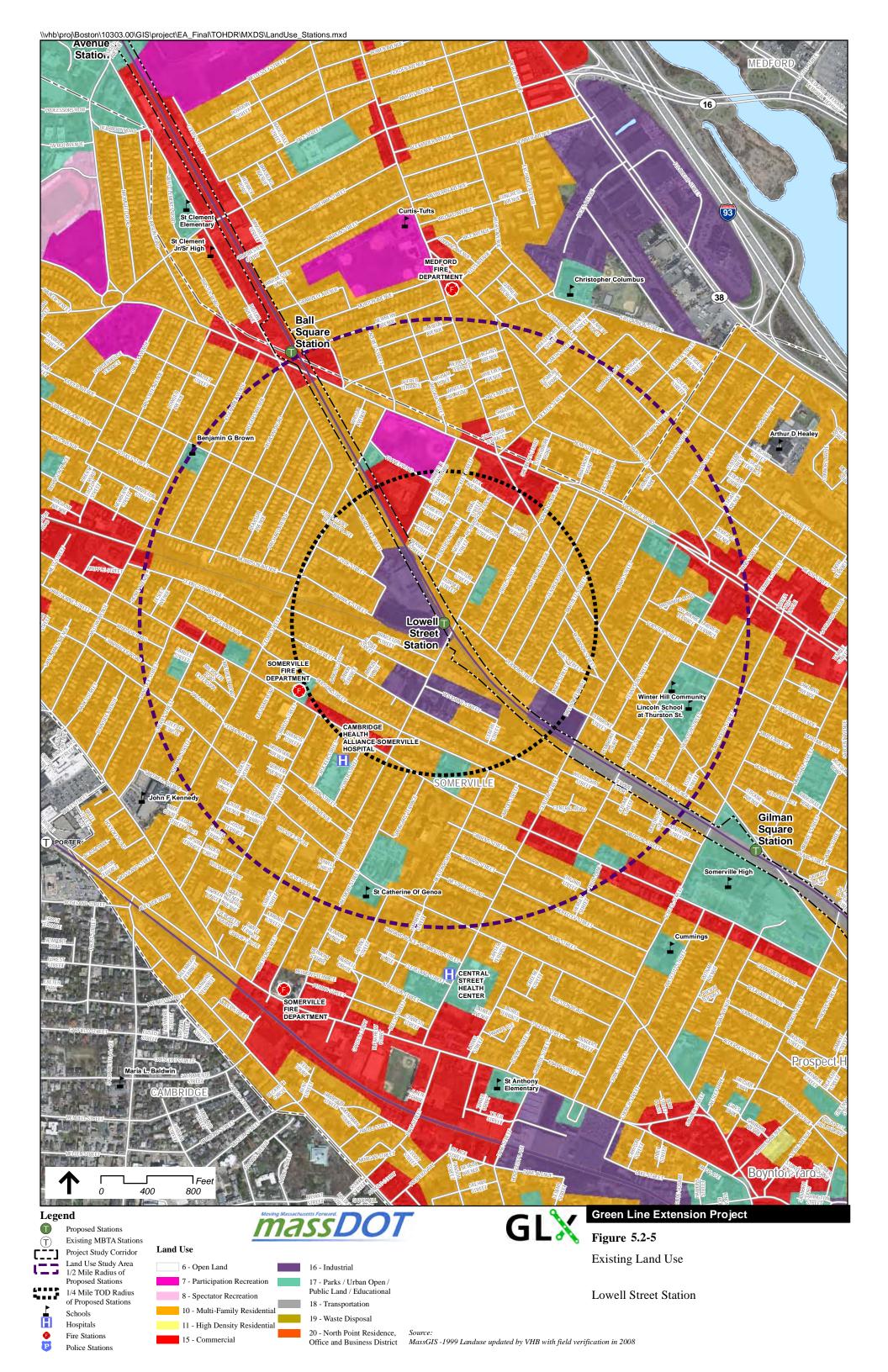
Sheet 9 of 9

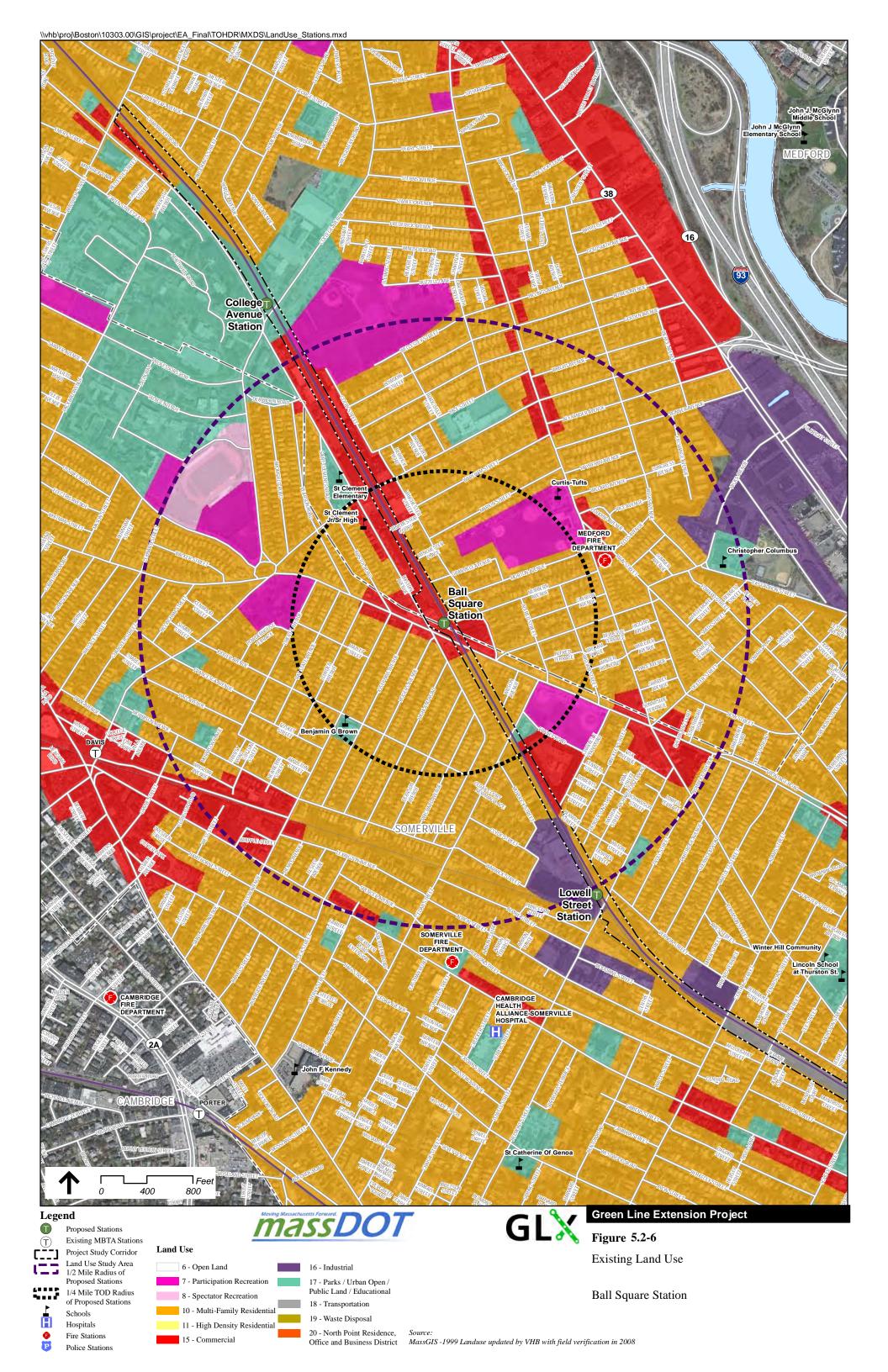


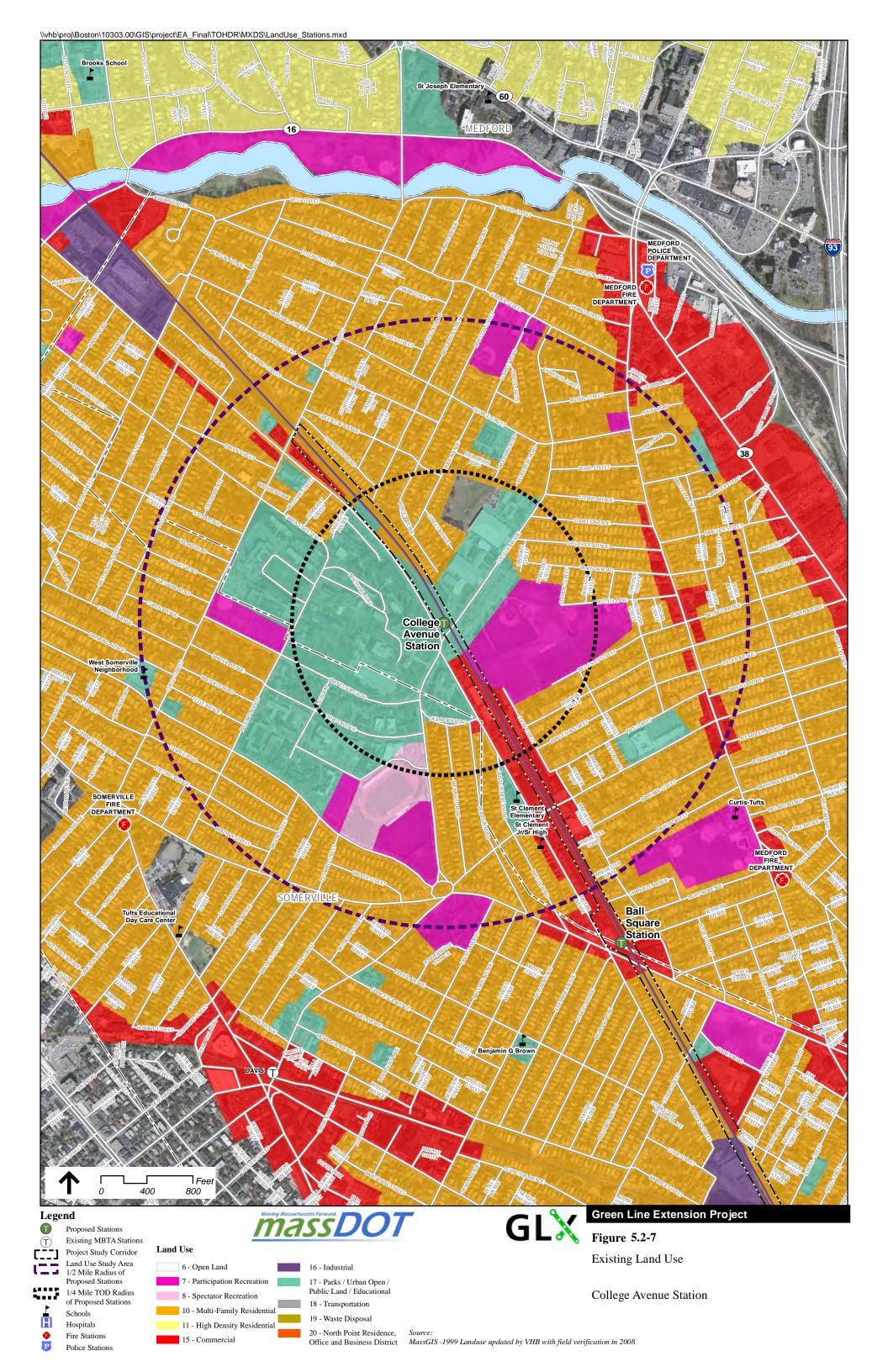


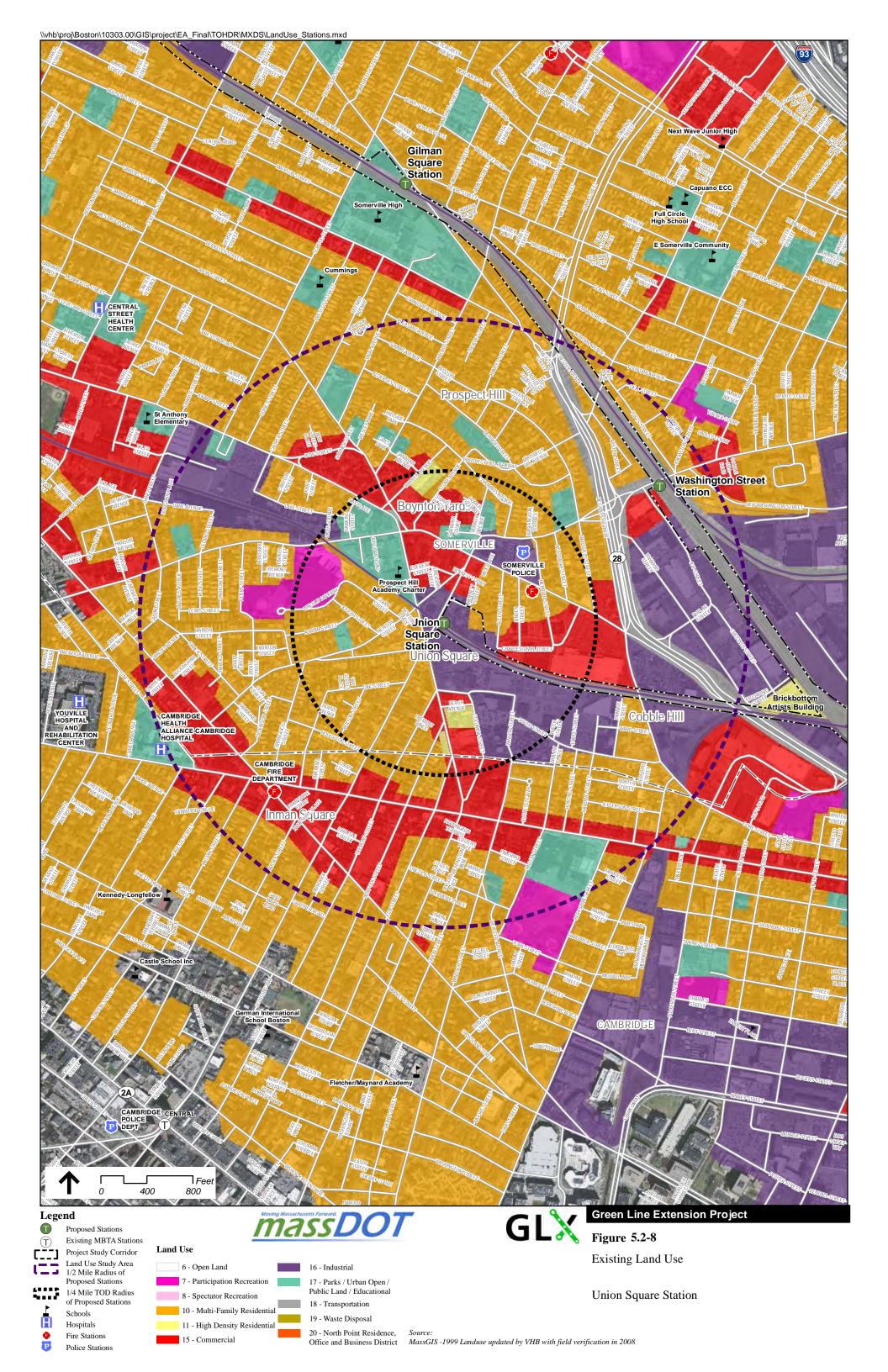


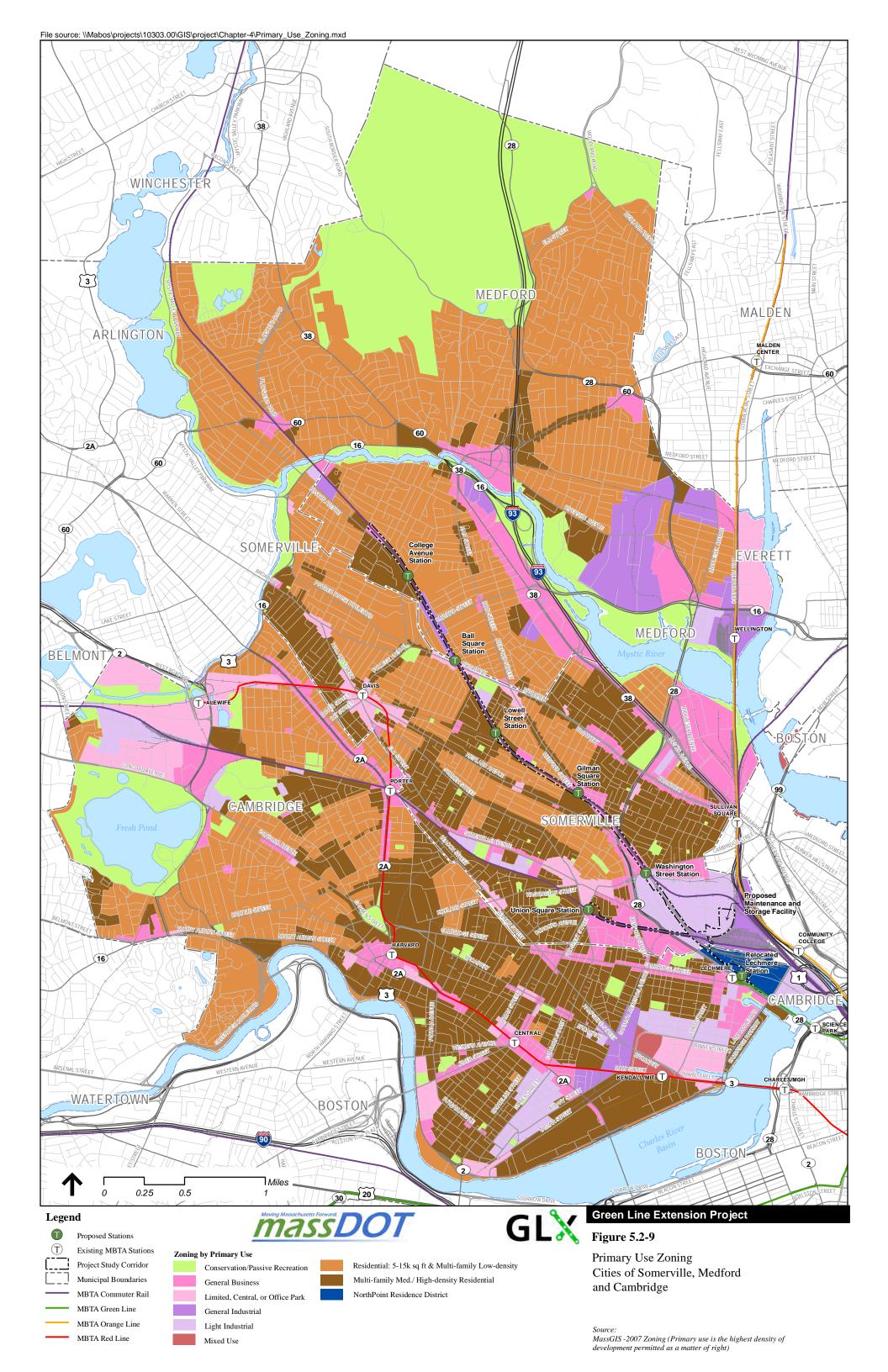


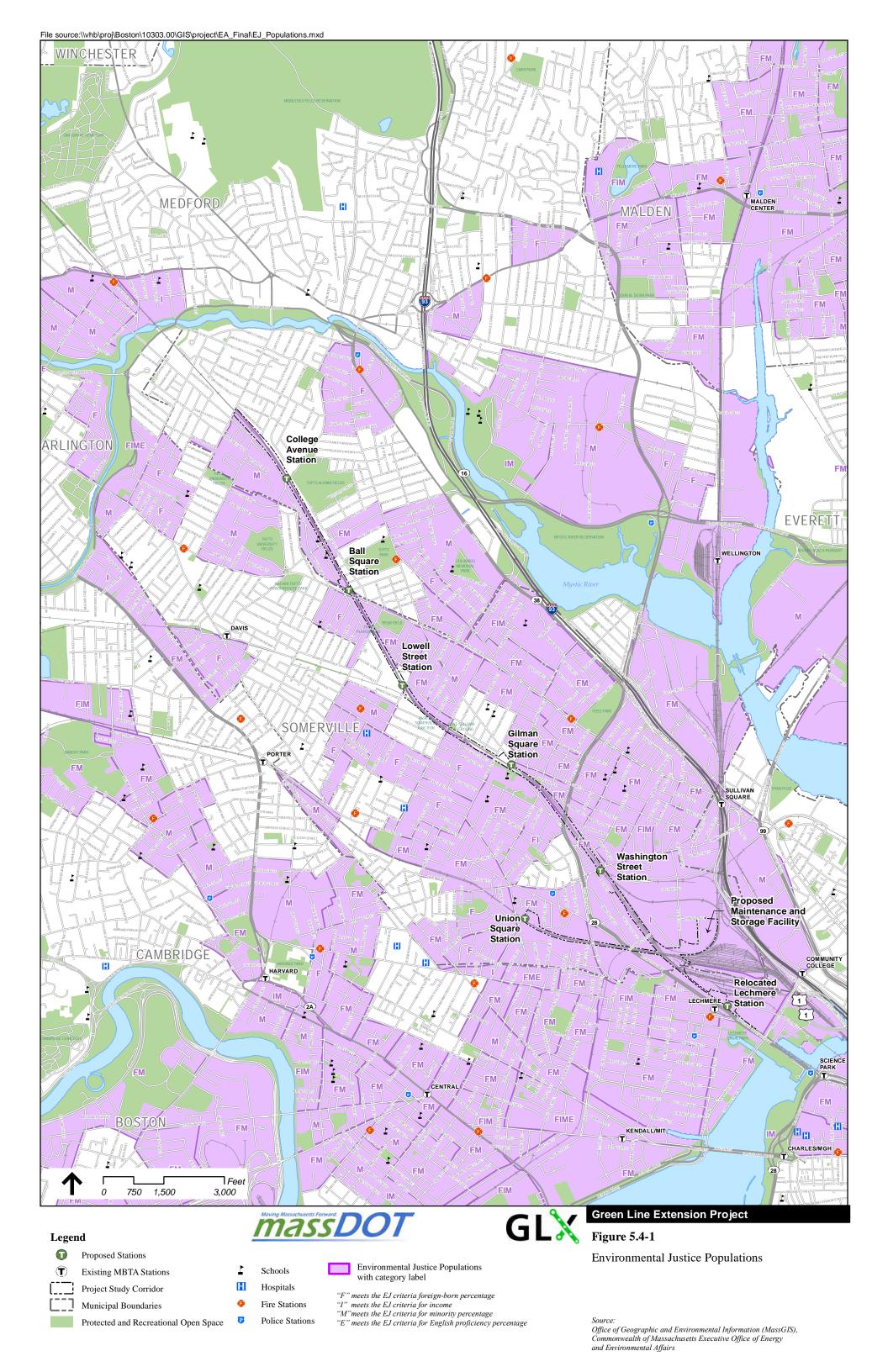


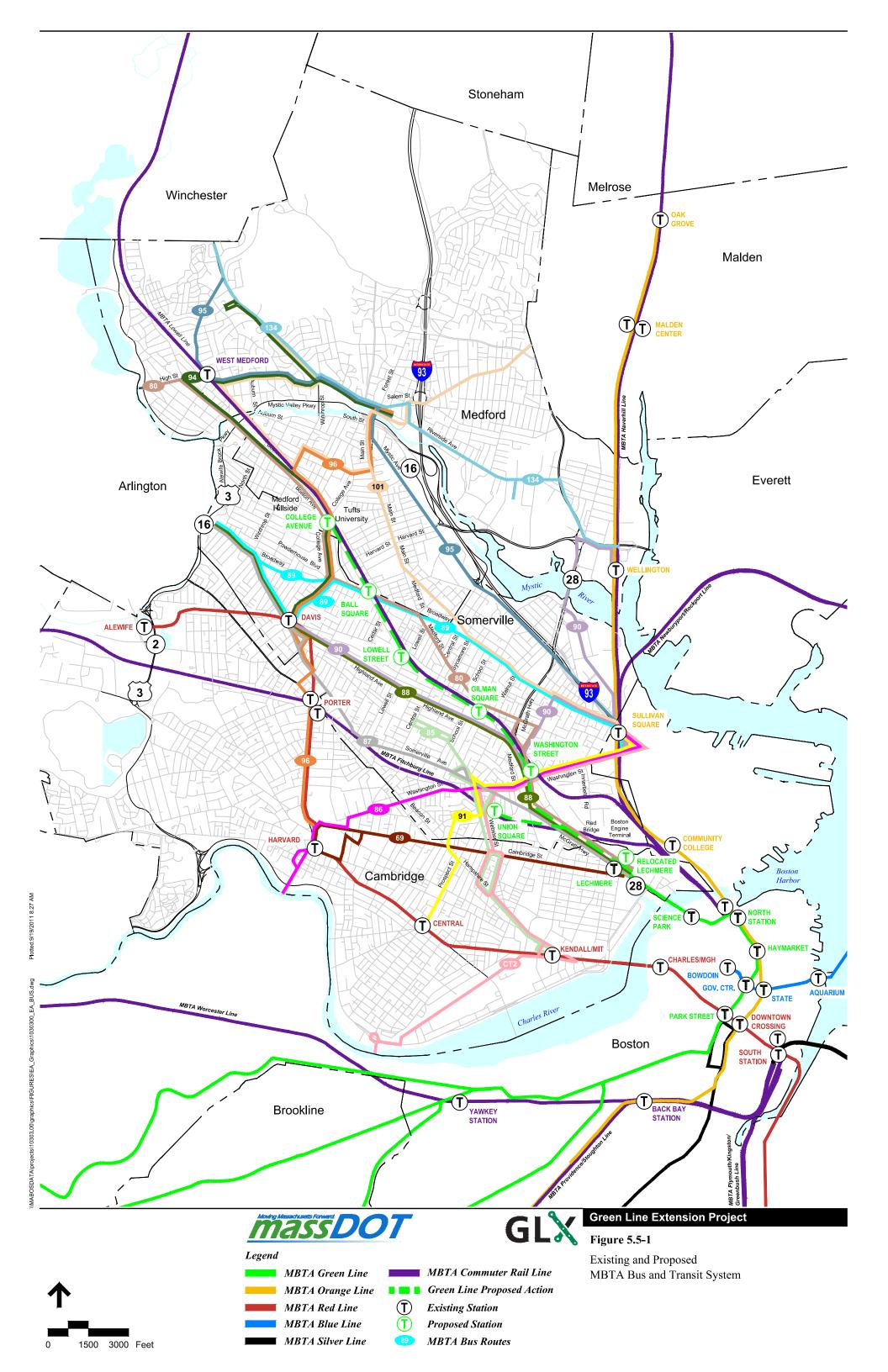


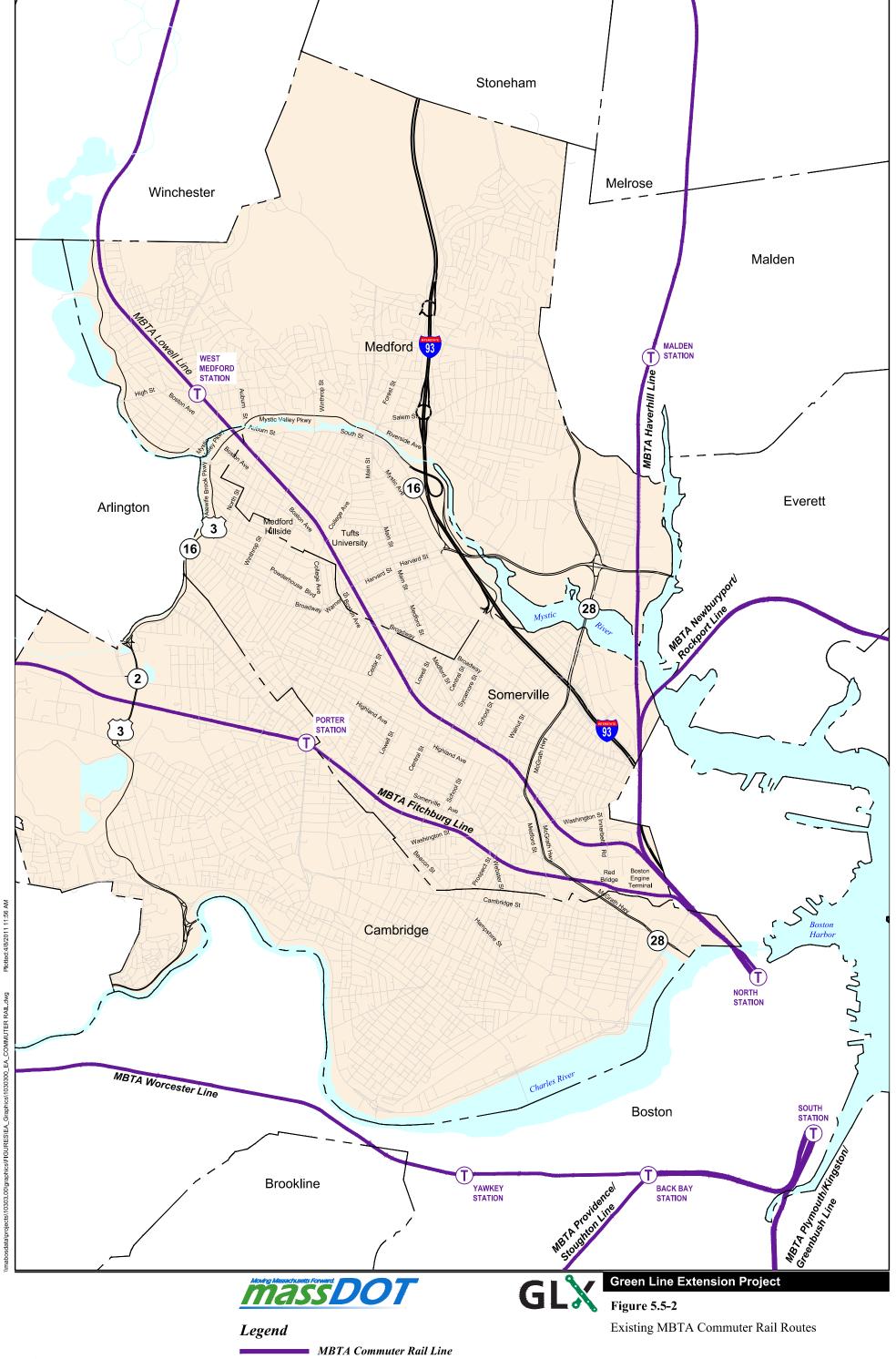


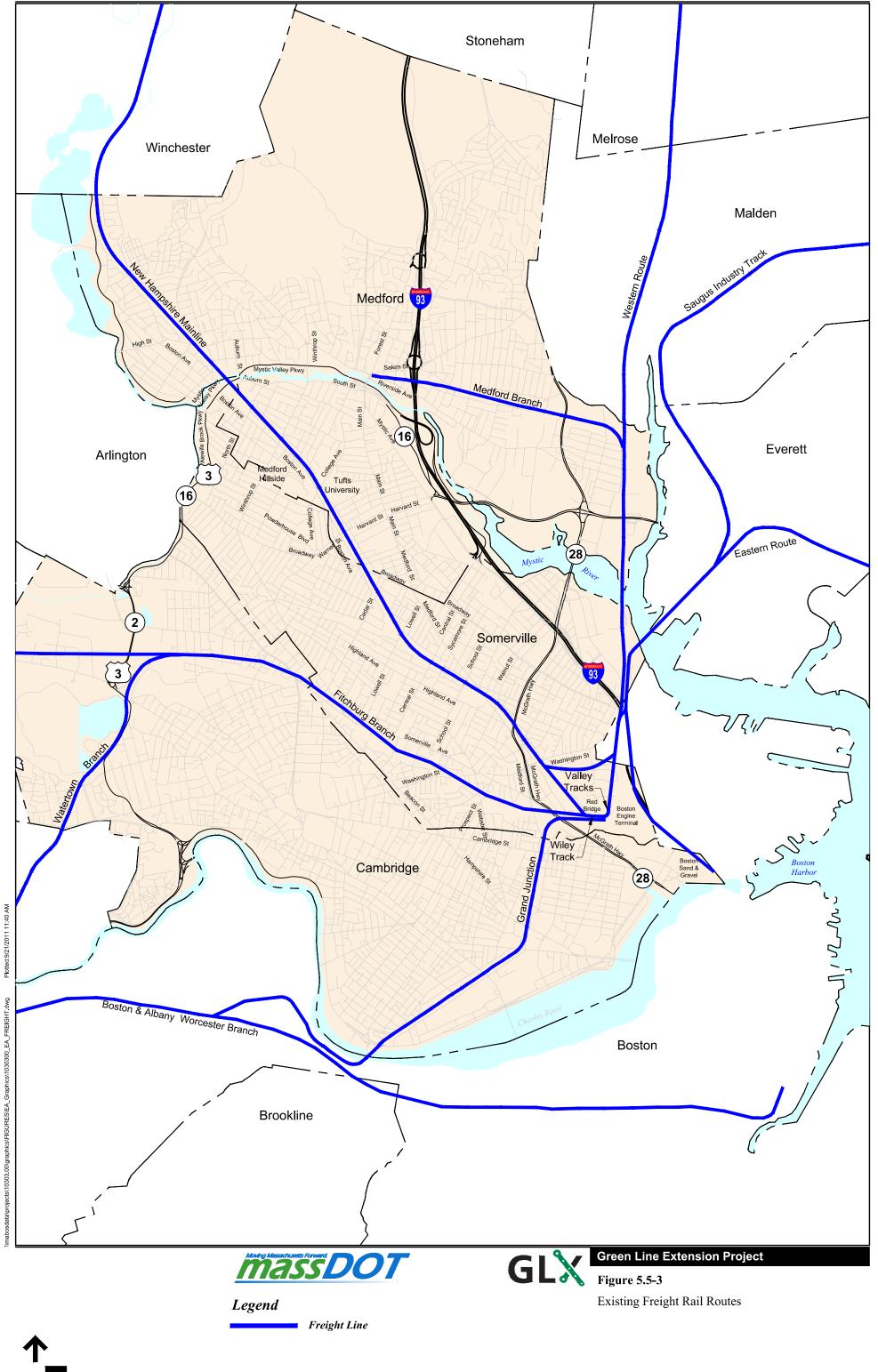


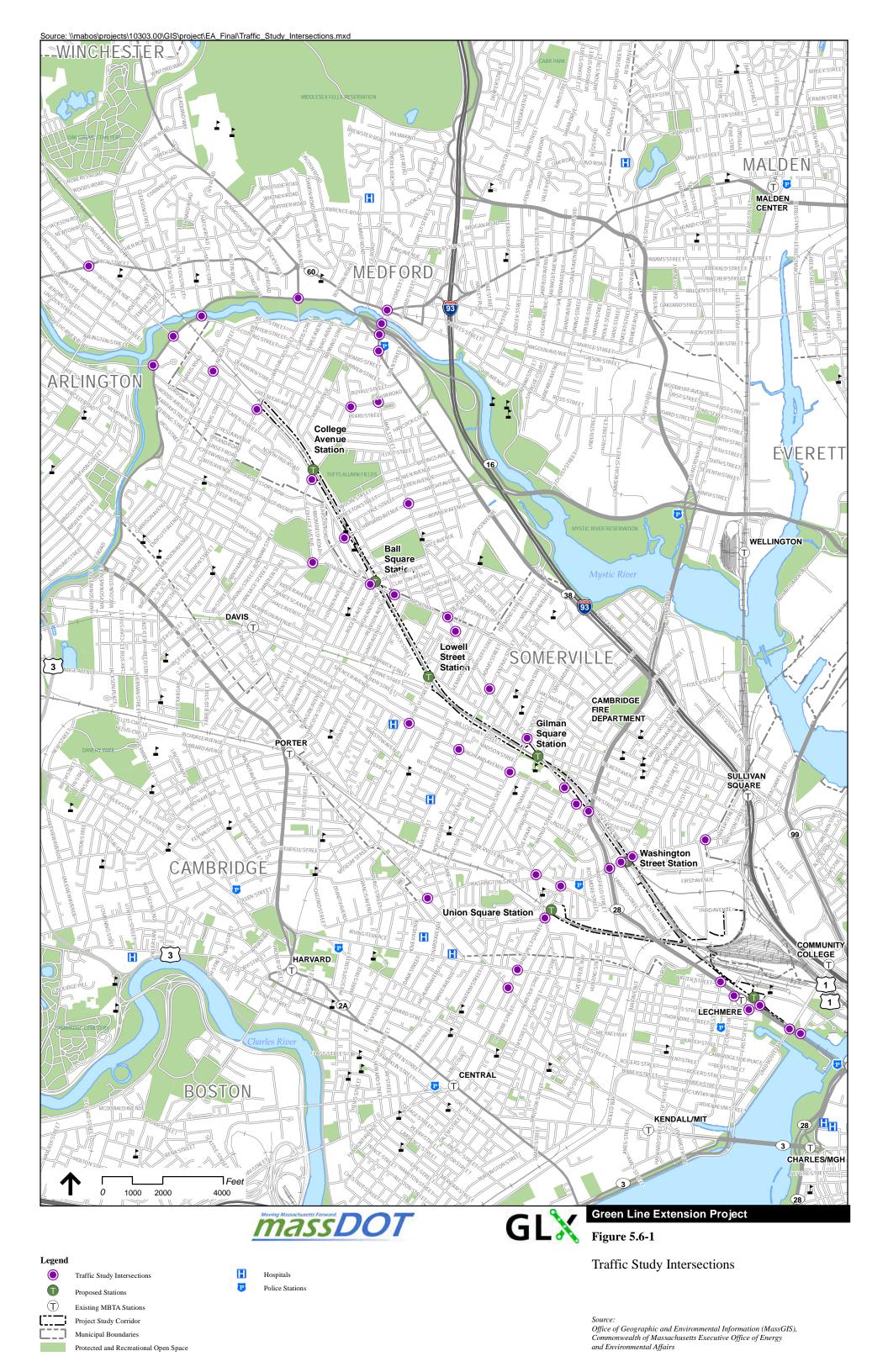


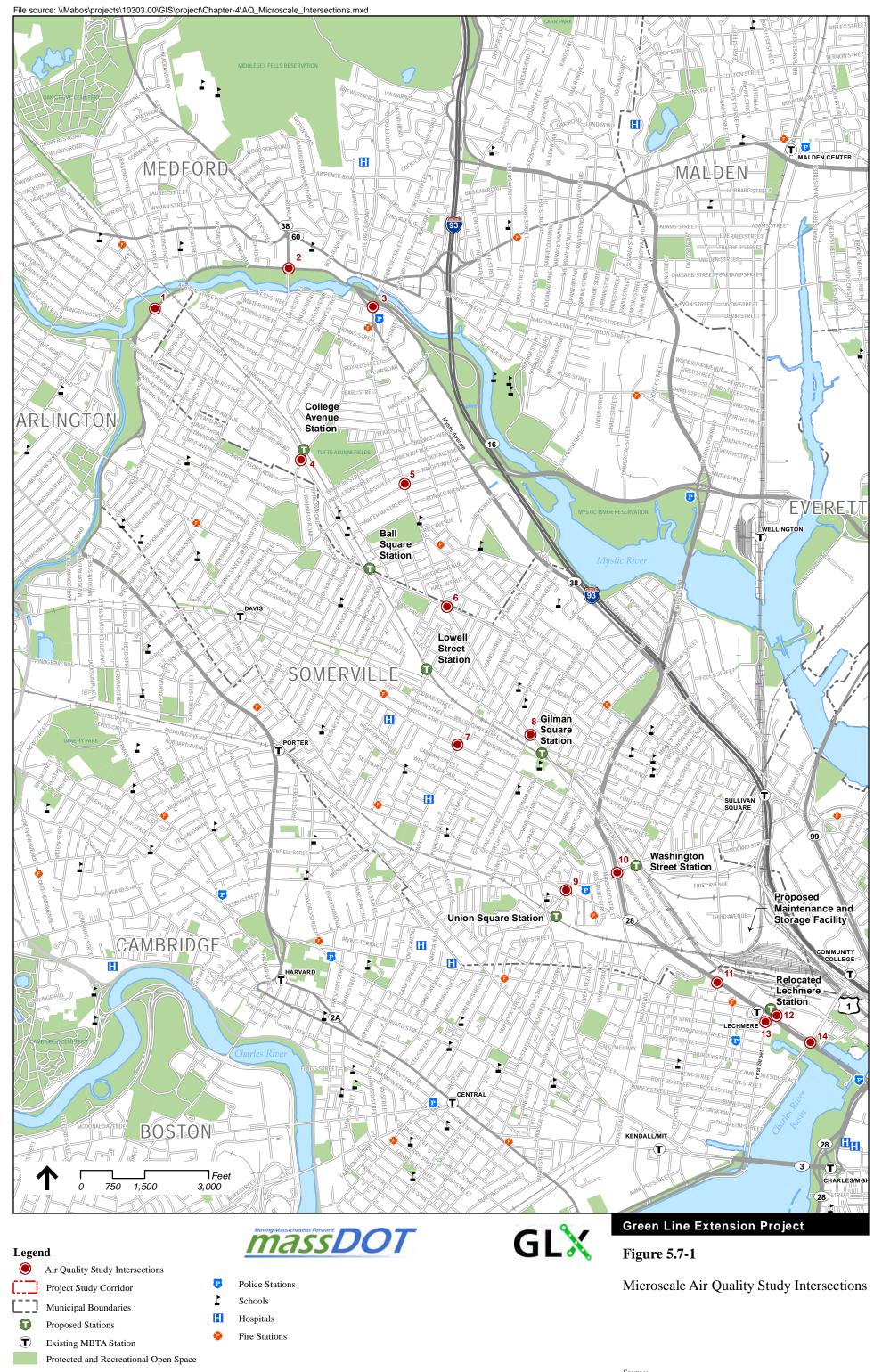


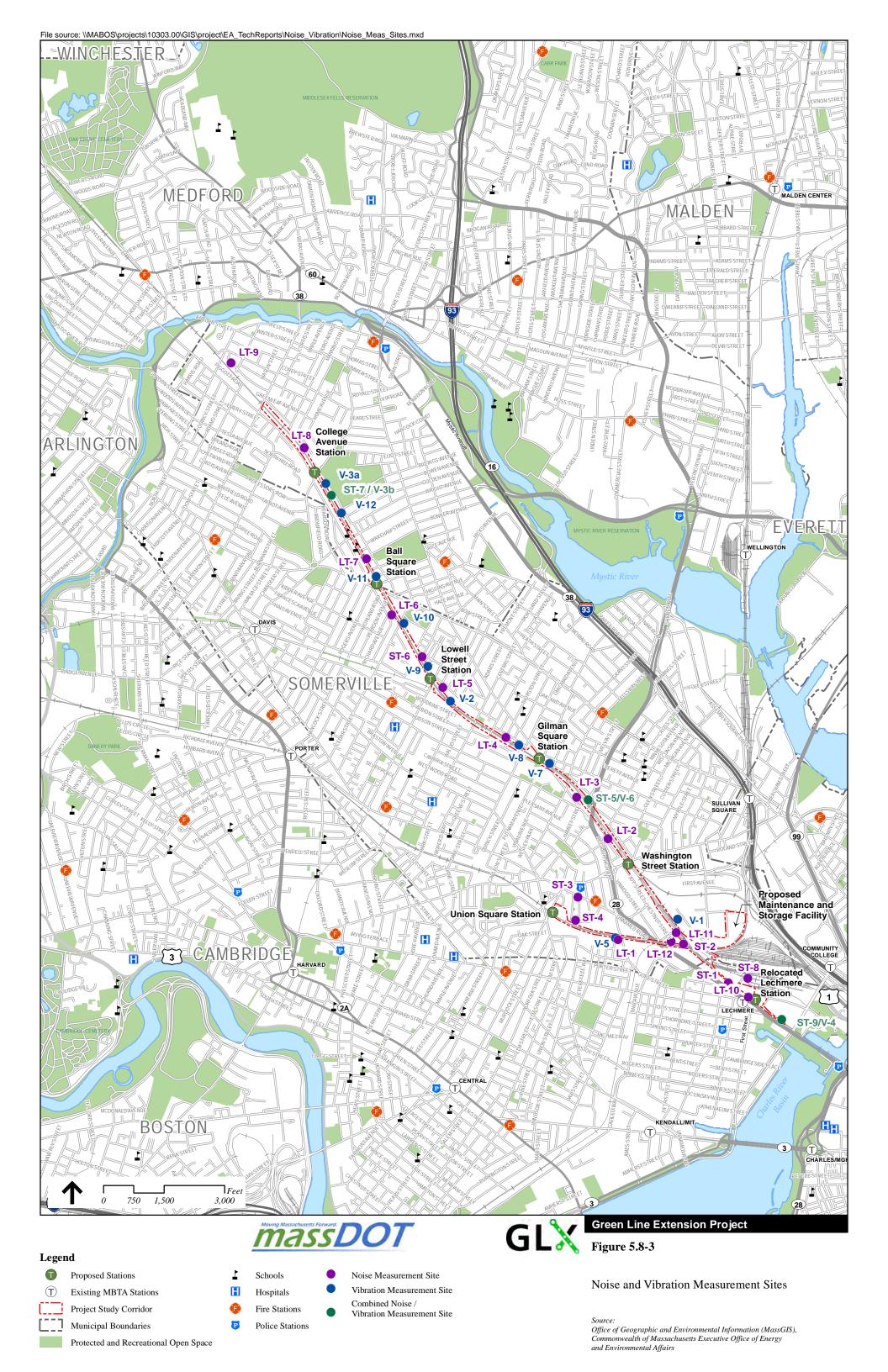


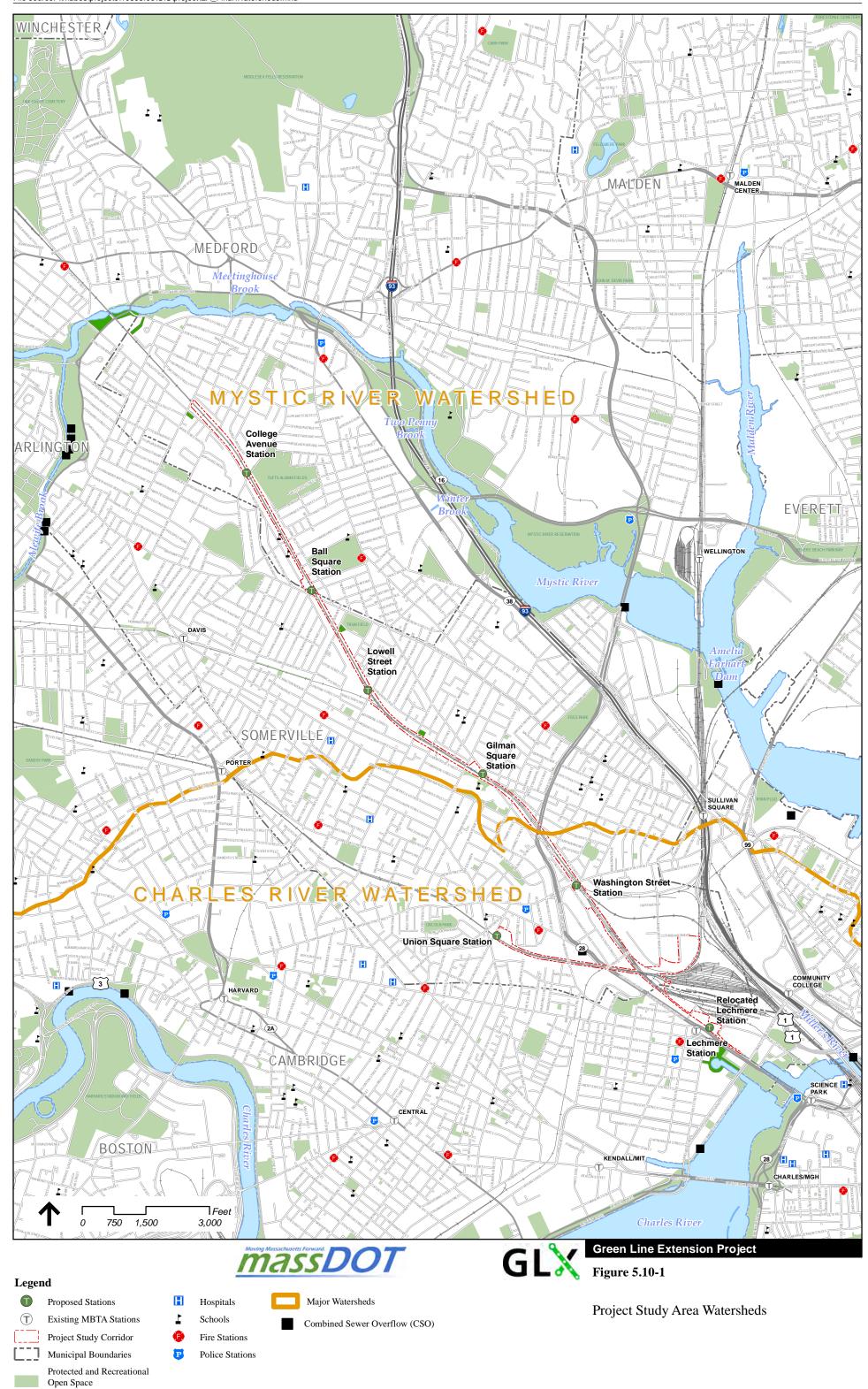


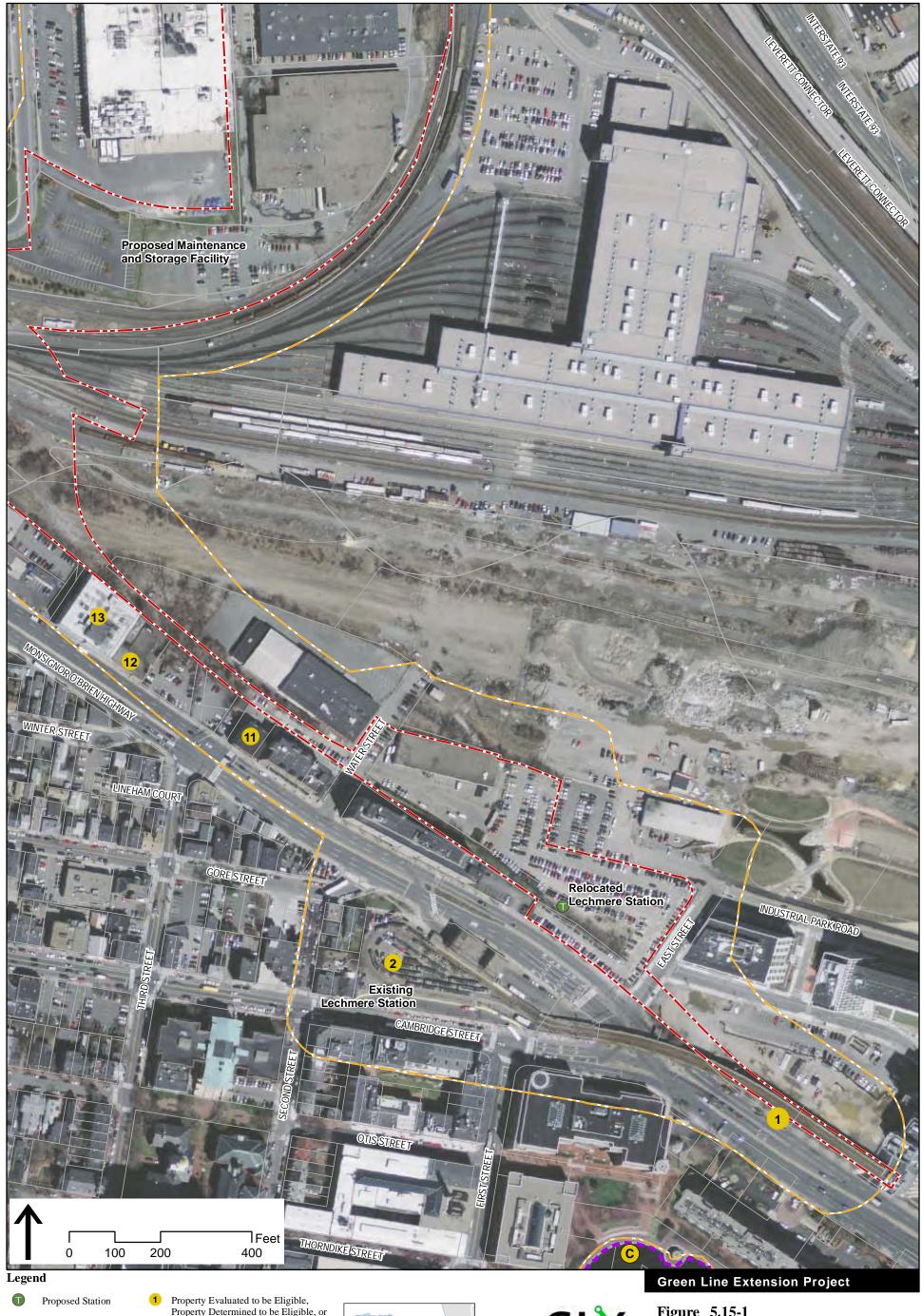








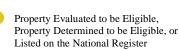




Project Study Corridor Area of Potential

Effect (APE)*

Municipal Boundaries Parcels



Area or District Boundary Evaluated to be Eligible, Determined to be Eligible, or Listed on the National Register

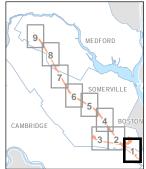






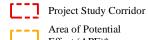
Figure 5.15-1

Location of Historic Properties Identified within the Project Area of Potential Effect

Sheet 1 of 9







Area of Potential Effect (APE)*



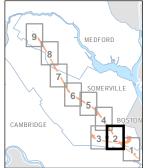
Municipal Boundaries Parcels



Property Determined to be Eligible, or Listed on the National Register

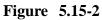


Area or District Boundary Evaluated to be Eligible, Determined to be Eligible, or Listed on the National Register



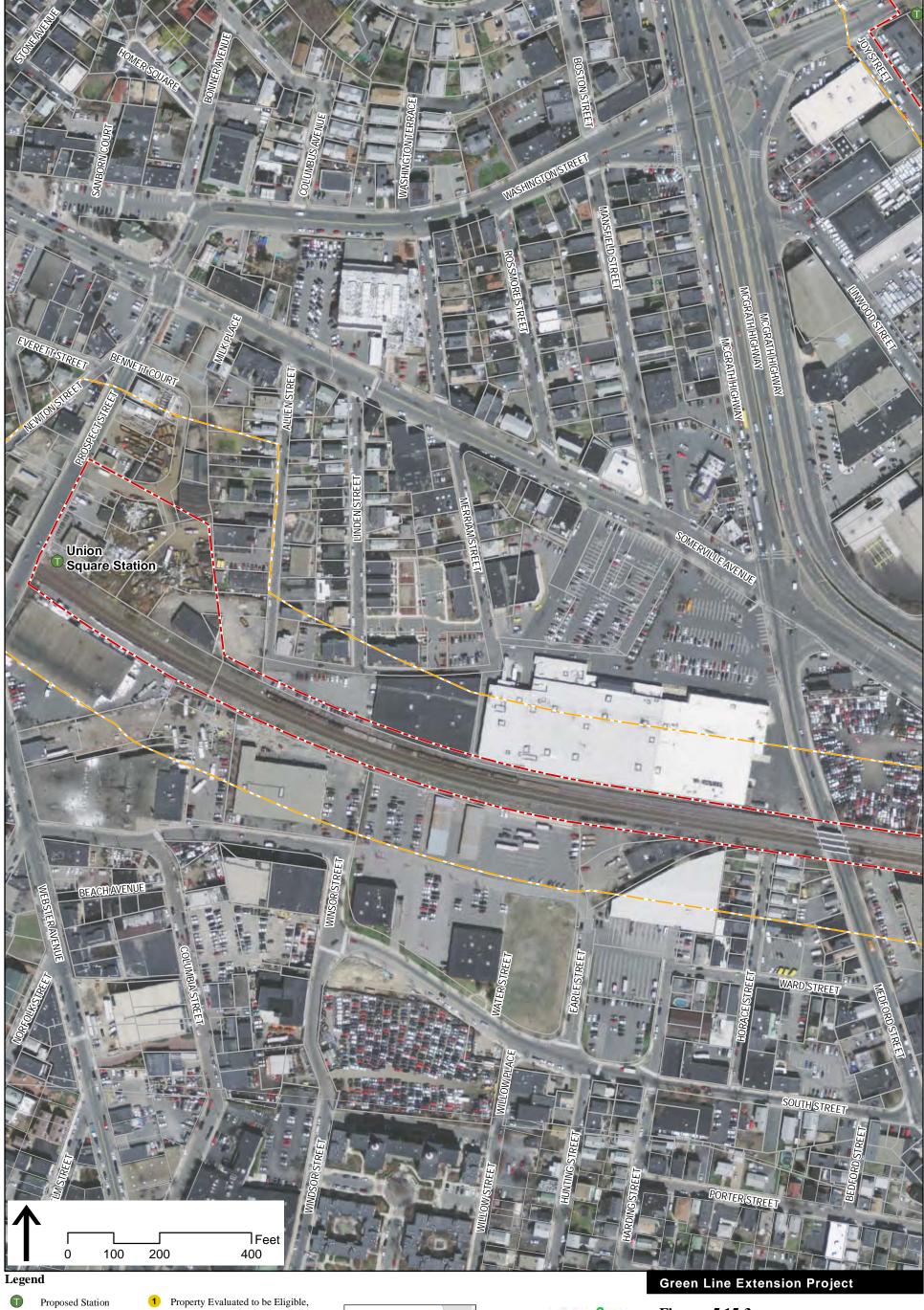






Location of Historic Properties Identified within the Project Area of Potential Effect

Sheet 2 of 9





Project Study Corridor



Area of Potential Effect (APE)*



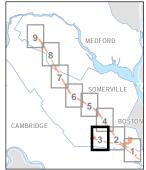
Municipal Boundaries Parcels



1 Property Evaluated to be Eligible, Property Determined to be Eligible, or Listed on the National Register

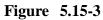


Area or District Boundary Evaluated to be Eligible, Determined to be Eligible, or Listed on the National Register



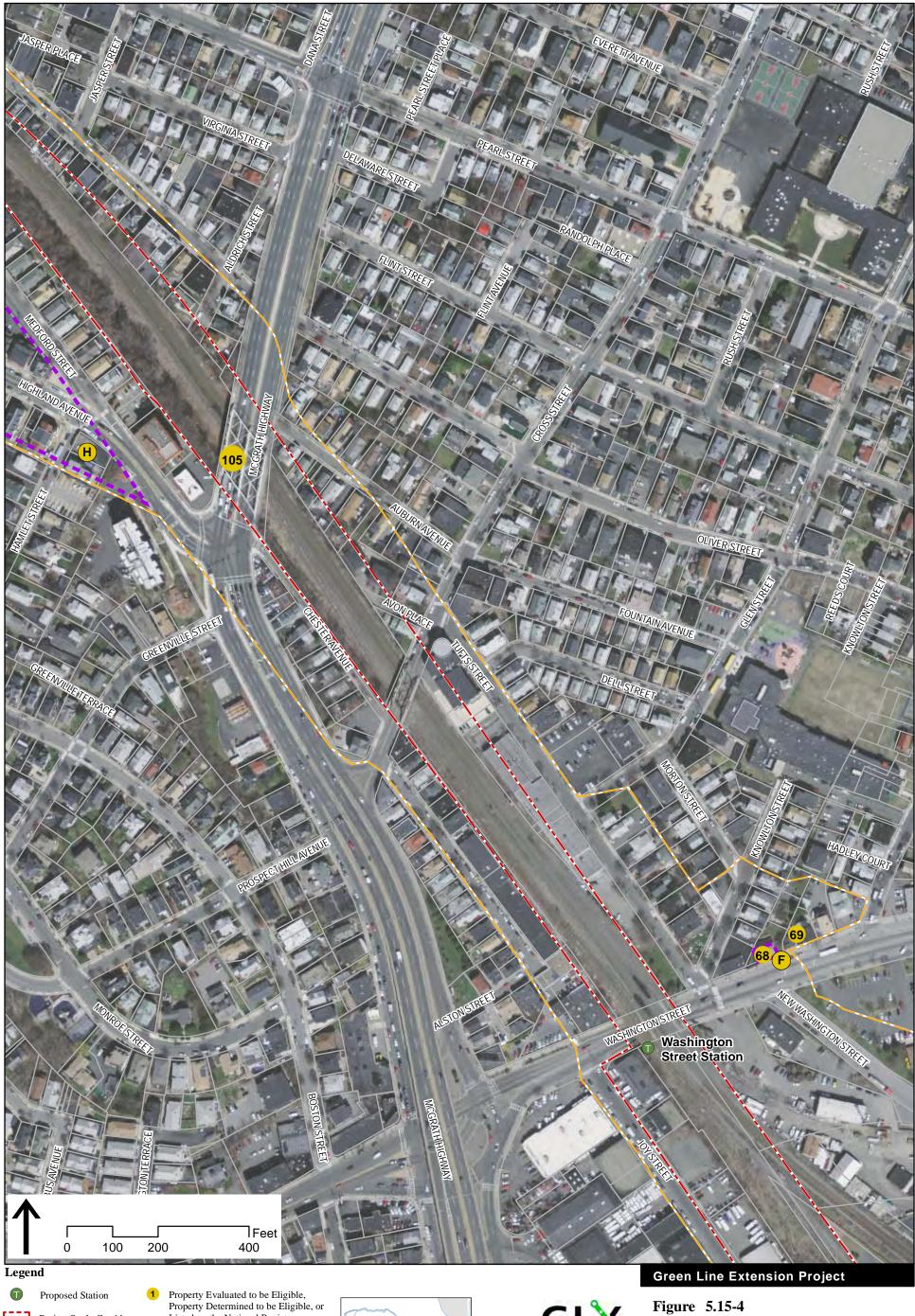






Location of Historic Properties Identified within the Project Area of Potential Effect

Sheet 3 of 9

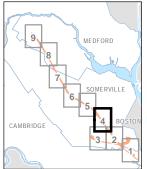


Project Study Corridor Area of Potential Effect (APE)*

Municipal Boundaries Parcels

Listed on the National Register

Area or District Boundary Evaluated to be Eligible, Determined to be Eligible, or Listed on the National Register







Location of Historic Properties Identified within the Project Area of Potential Effect

Sheet 4 of 9



Area of Potential Effect

Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs

Sheet 5 of 9

Moving Mussichusetts Forward.

MASSSDOT

* The Area of Potential Effect (APE) is 125 ft from the proposed right-of-way or the limit of adjacent parcel, whichever is greater, and extends to follow historic district boundaries.

Municipal

Boundaries

Parcels

Determined to be Eligible, or

Listed on the National Register



Identified within the Project

Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs

Area of Potential Effect

Sheet 6 of 9

Moving Mussichusetts Forward.

MASSSDOT

* The Area of Potential Effect (APE) is 125 ft from the proposed right-of-way or the limit of adjacent parcel, whichever is greater, and extends to follow historic district boundaries.

Effect (APE)*

Municipal

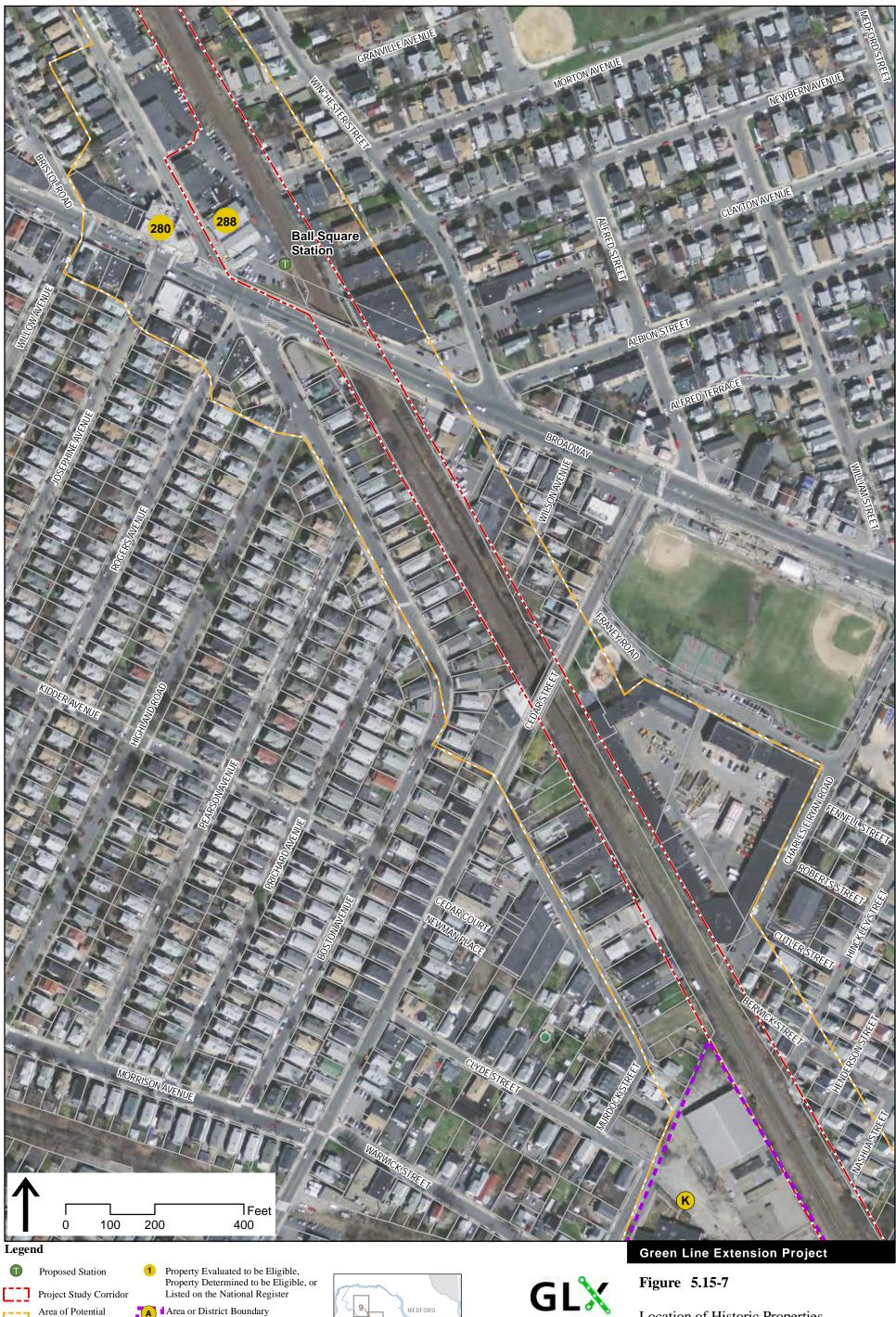
Boundaries

Parcels

Evaluated to be Eligible,

Determined to be Eligible, or

Listed on the National Register



* The Area of Potential Effect (APE) is 125 ft from the proposed right-of-way or the limit of adjacent parcel, whichever is greater, and extends to follow historic district boundaries.

Effect (APE)*

Municipal

Boundaries

Parcels

Area or District Boundary Evaluated to be Eligible, Determined to be Eligible, or Listed on the National Register

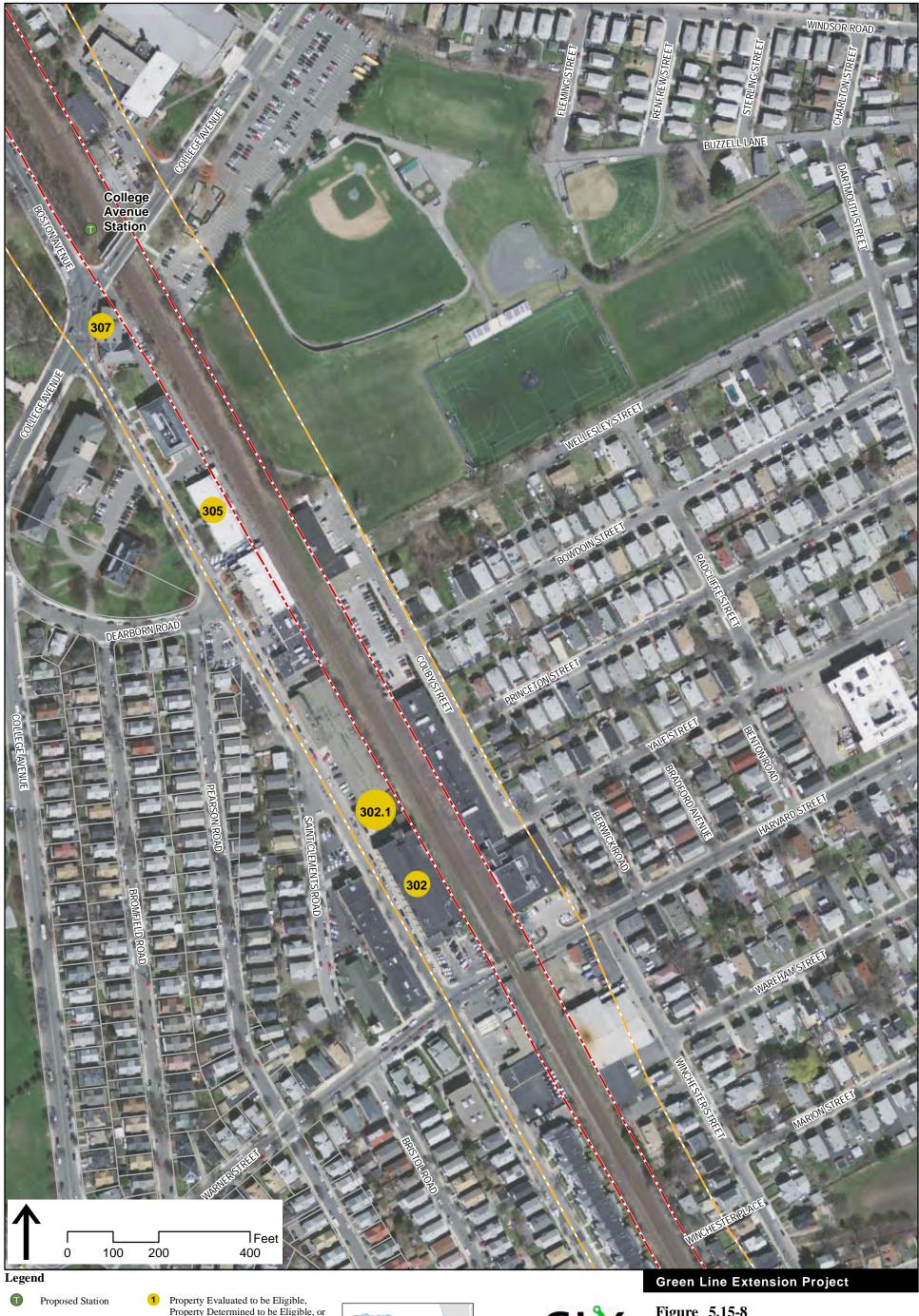


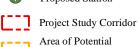




Location of Historic Properties Identified within the Project Area of Potential Effect

Sheet 7 of 9





Effect (APE)* Municipal Boundaries

Parcels



Property Determined to be Eligible, or Listed on the National Register

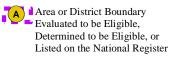




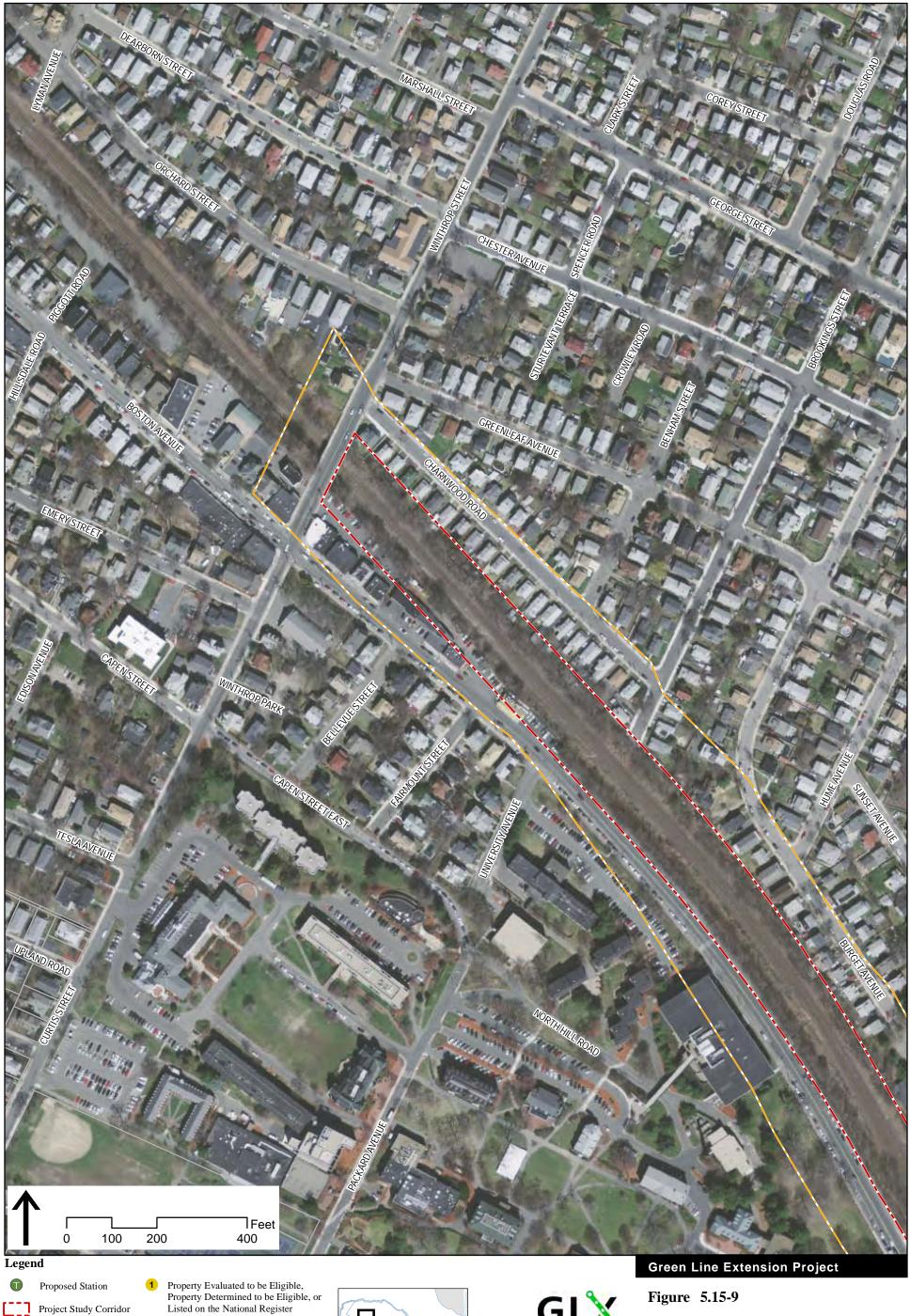




Figure 5.15-8

Location of Historic Properties Identified within the Project Area of Potential Effect

Sheet 8 of 9



* The Area of Potential Effect (APE) is 125 ft from the

proposed right-of-way or the limit of adjacent parcel, whichever is greater, and extends to follow historic district boundaries.

Area of Potential

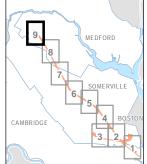
Effect (APE)*

Municipal

Boundaries

Parcels

Area or District Boundary Evaluated to be Eligible, Determined to be Eligible, or Listed on the National Register



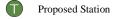




Location of Historic Properties Identified within the Project Area of Potential Effect

Sheet 9 of 9







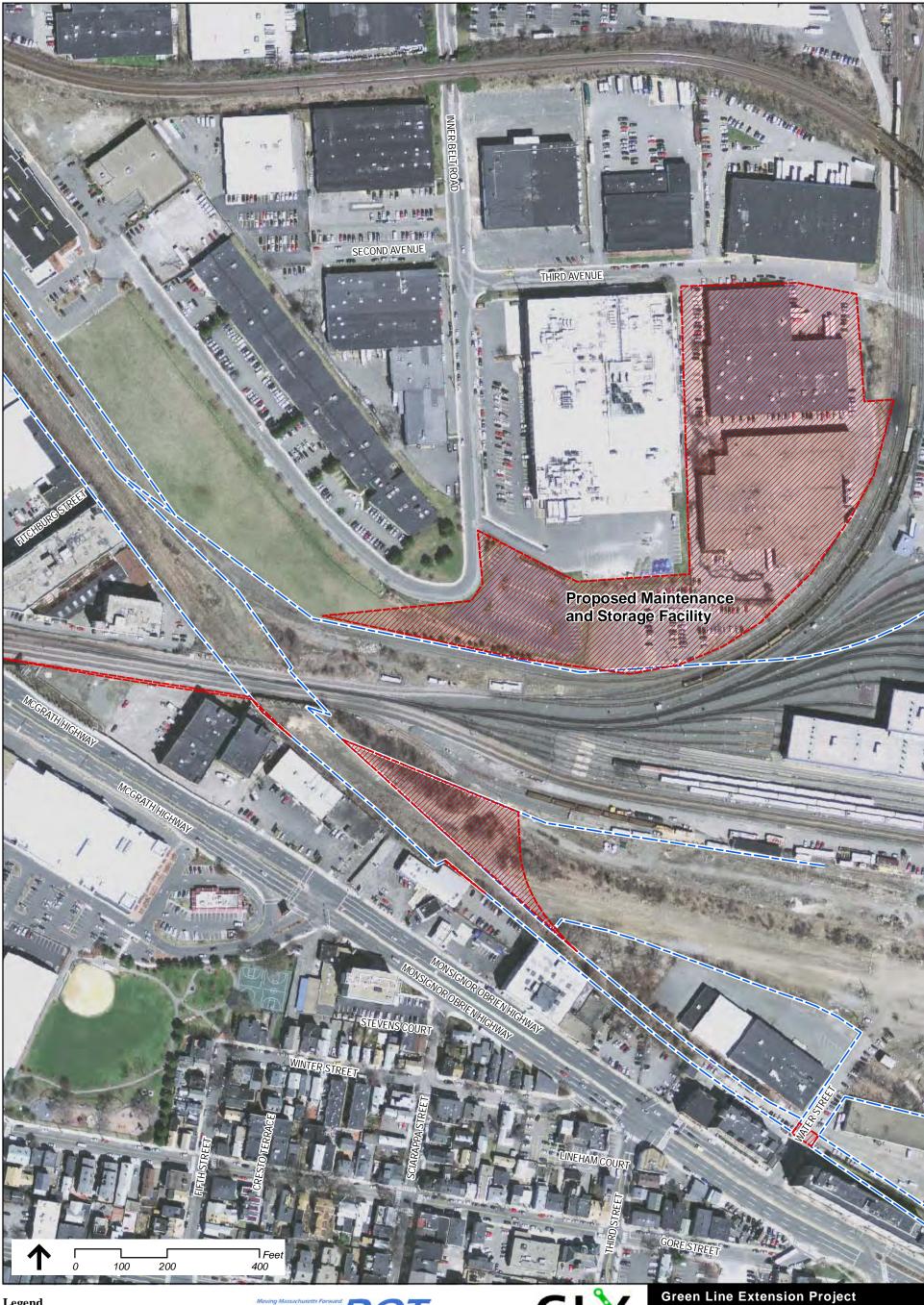
Property Acquisitions MBTA Right-of-Way





Figure 6.2-1

Proposed Property Acquisitions in the Vicinity of Lechmere Station



Proposed Station



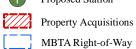
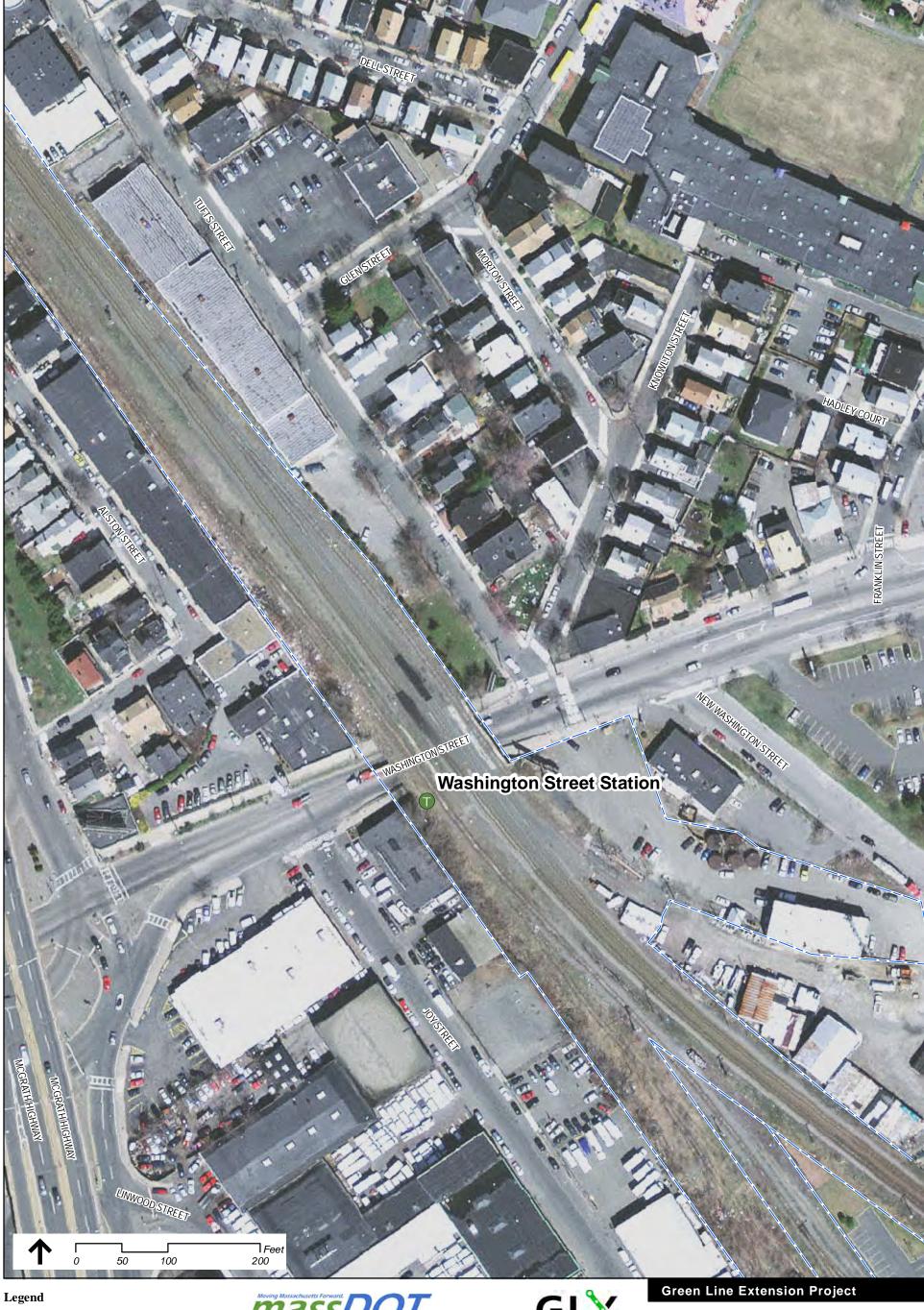




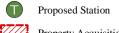


Figure 6.2-2

Proposed Property Acquisitions in the Vicinity of Option L Maintenance and Storage Facility













Proposed Property Acquisitions in the Vicinity of Washington Street Station













Proposed Property Acquisitions in the Vicinity of Gilman Square Station





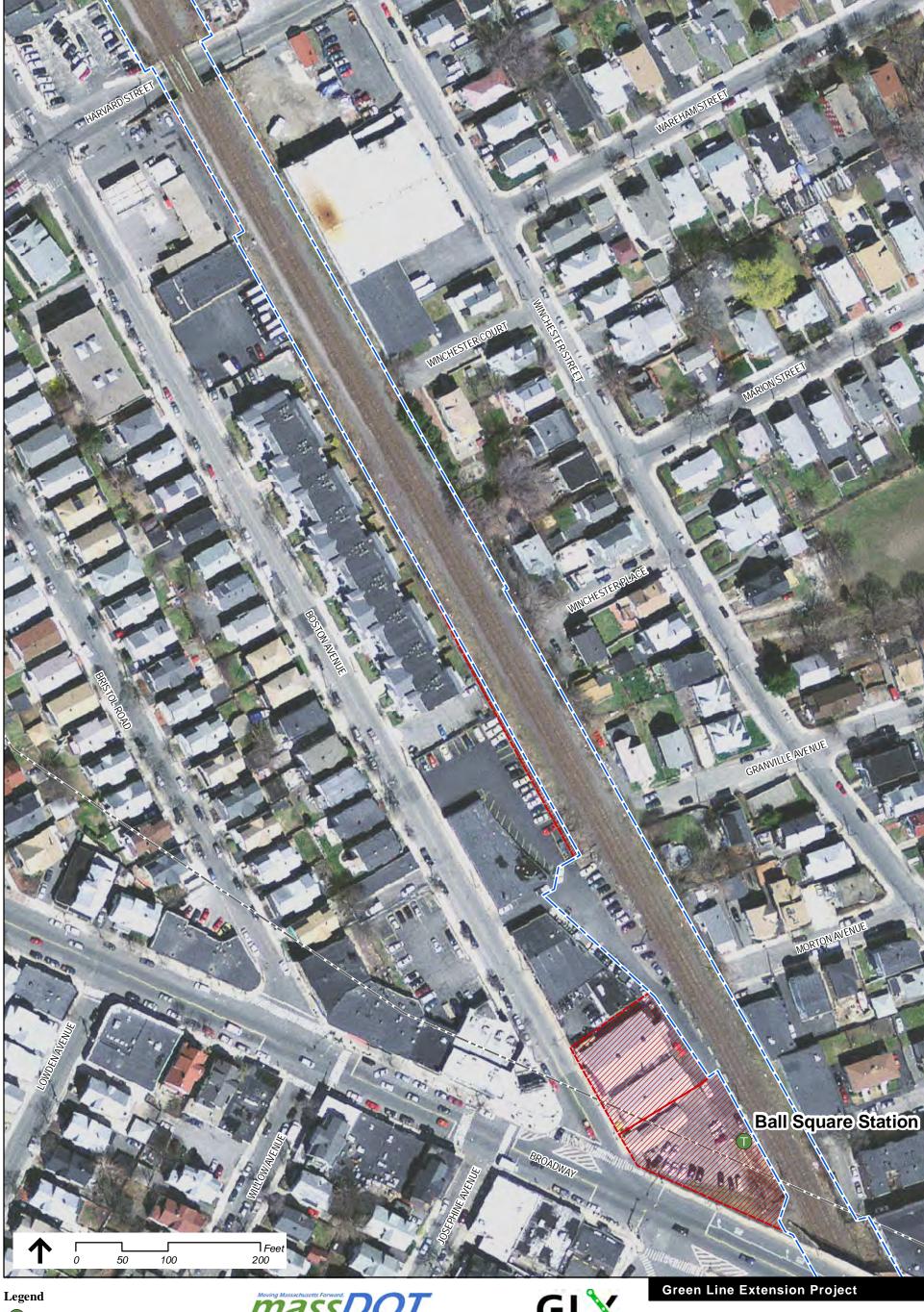






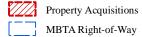


Proposed Property Acquisitions in the Vicinity of Lowell Street Station





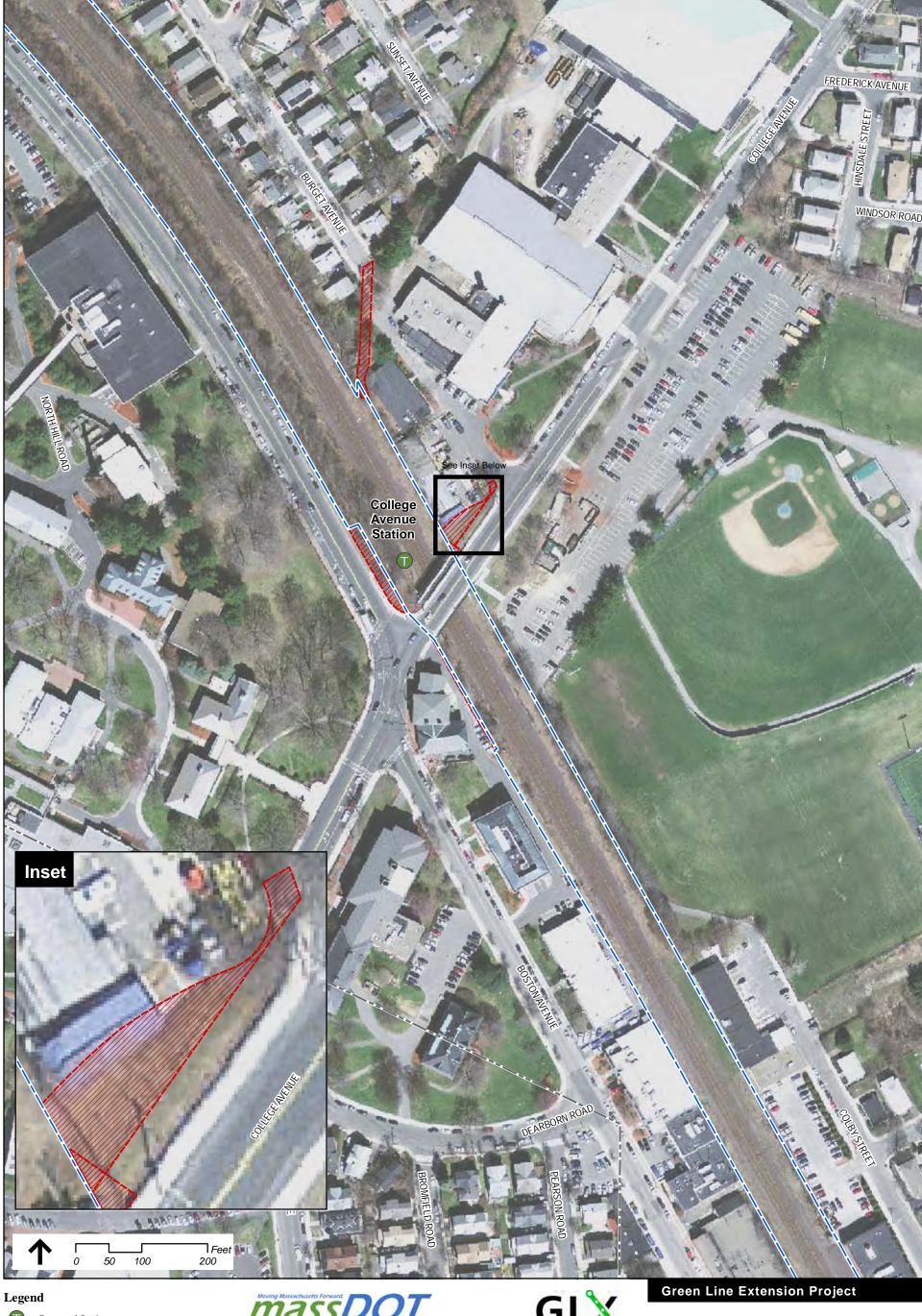








Proposed Property Acquisitions in the Vicinity of Ball Square Station



Proposed Station

Property Acquisitions MBTA Right-of-Way

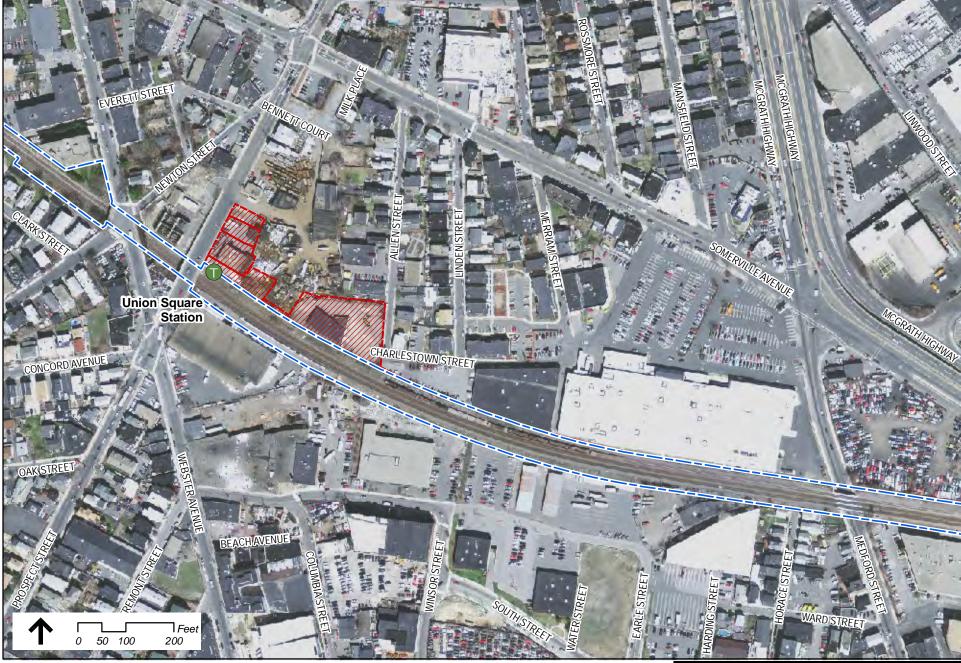


GLX

Figure 6.2-7

Proposed Property Acquisitions in the Vicinity of College Avenue Station







Proposed Station



Property Acquisitions



MBTA Right-of-Way

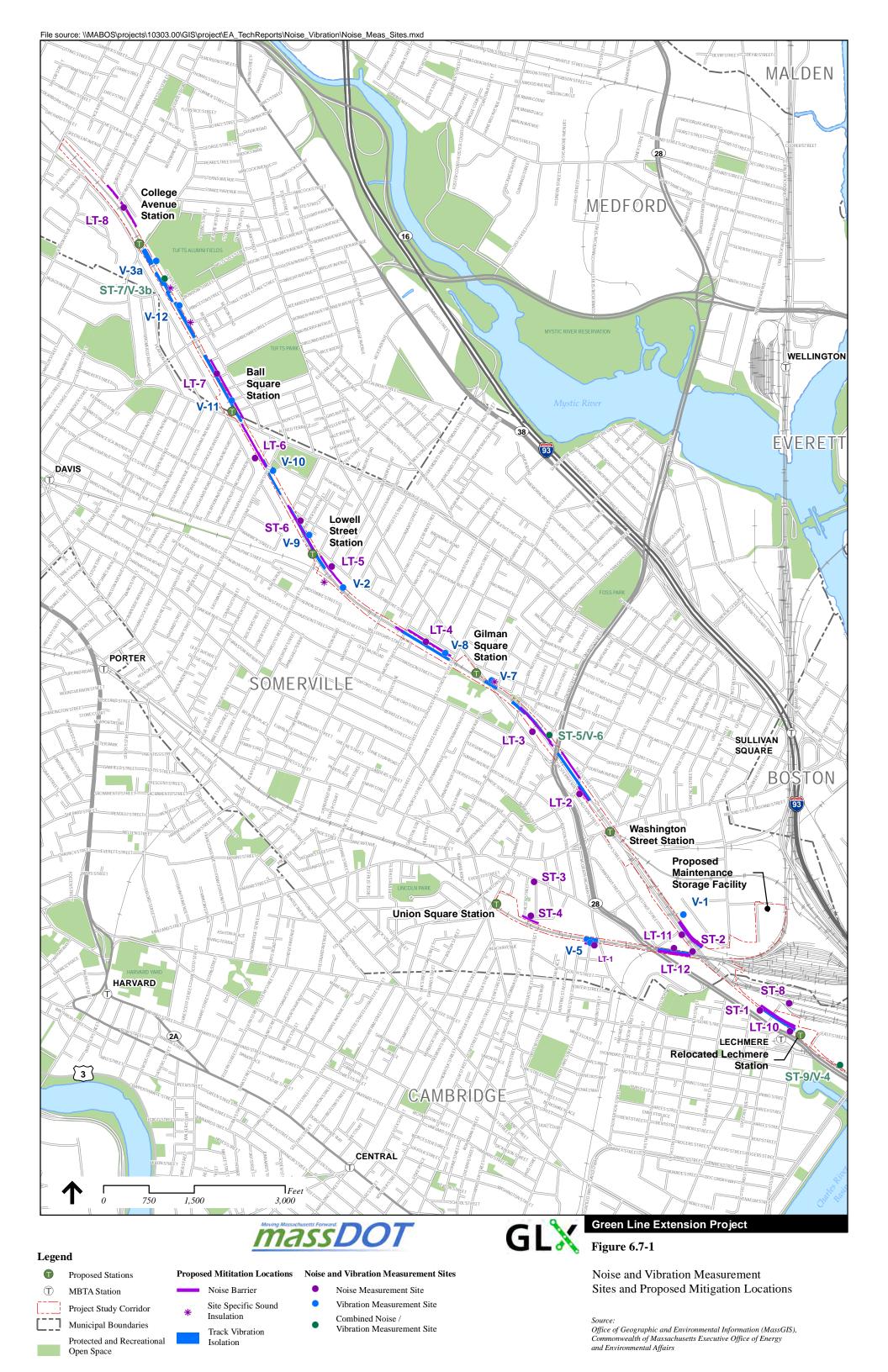




Green Line Extension Project

Figure 6.2-8

Proposed Property Acquisitions in the Vicinity of Union Square Station









Proposed Station

Measurement Sites

Noise Site

Vibration Site

Combined Noise / Vibration Site

Noise Impacts Prior to Mitigation

Moderate Impact

Severe Impact

Ground-borne Noise Impact

Proposed Mitigation

Sound Insulation Improvements

Green Line Track Vibration Isolation (for Noise)

Commuter Rail Track Vibration Isolation (for Noise)

Noise Mitigation

Vibration Mitigation for Airborne Noise

Vibration Mitigation for Ground-borne Noise

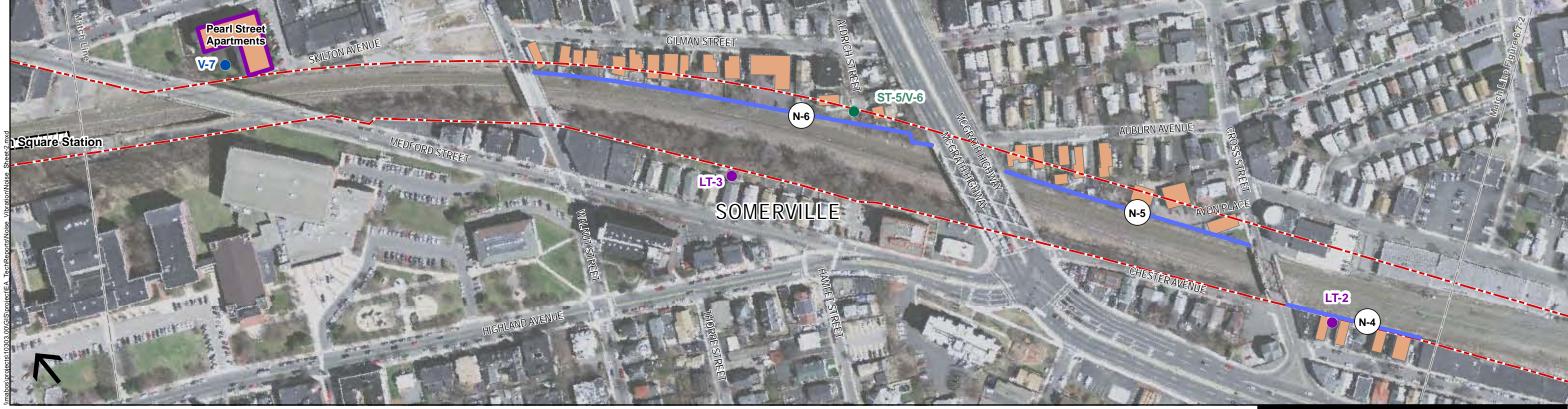


Figure 6.7-2

Noise Impacts and Mitigation Measures

Sheet 1 of 5





Moving Massachusetts Forward.

Massachusetts Forward.

DOT

Legend

Project Study Corridor

Proposed Station

Combined Noise / Vibration Site

Noise Site

Vibration Site

Measurement Sites

Noise Impacts Prior to Mitigation

Ground-borne Noise Impact

Moderate Impact

Severe Impact

Noise Barriers Sound Insulation Improvements

Green Line Track Vibration Isolation (for Noise)

Commuter Rail Track Vibration Isolation (for Noise)

(N-1) Noise Mitigation

Proposed Mitigation

Vibration Mitigation for Airborne Noise

Vibration Mitigation for Ground-borne Noise

GLX

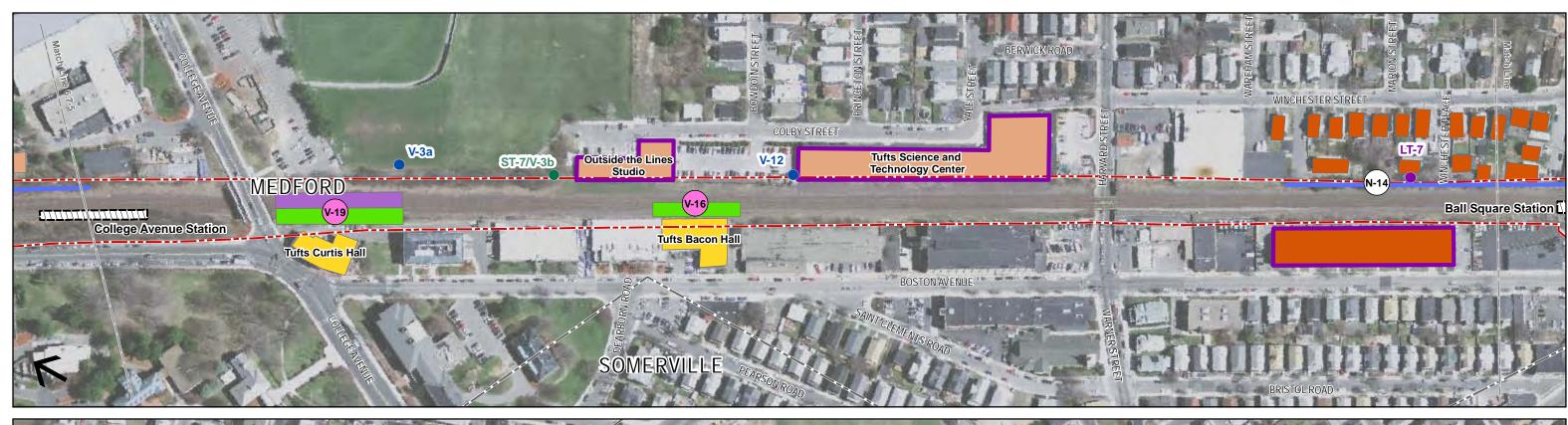
Green Line Extension Project

Figure 6.7-3

Noise Impacts and Mitigation Measures

Sheet 2 of 5

Sources: Harris Miller Miller & Hanson Inc.





Moving Massachusetts Forward.

Massachusetts Forward.

DOT

Legend



Proposed Station

Measurement Sites

Noise Site Vibration Site

Vibration Site

Combined Noise /

Moderate Impact

Severe Impact Ground-borne Noise Impact

Noise Impacts Prior to Mitigation

Proposed Mitigation Noise Barriers

Sound Insulation Improvements

Green Line Track Vibration Isolation (for Noise) Commuter Rail Track Vibration Isolation (for Noise)

(N-1) Noise Mitigation

Vibration Mitigation for Airborne Noise

Vibration Mitigation for Ground-borne Noise



Green Line Extension Project

Figure 6.7-4

Noise Impacts and Mitigation Measures

Sheet 3 of 5

Sources: Harris Miller Miller & Hanson Inc.





Measurement Sites

Noise Site

Vibration Site

Combined Noise / Vibration Site

Noise Impacts Prior to Mitigation

Moderate Impact

Severe Impact

Ground-borne Noise Impact

Proposed Mitigation

Noise Barriers

Sound Insulation Improvements

Green Line Track Vibration Isolation (for Noise)

Commuter Rail Track Vibration Isolation (for Noise)

Noise Mitigation

Vibration Mitigation for Airborne Noise

Vibration Mitigation for Ground-borne Noise

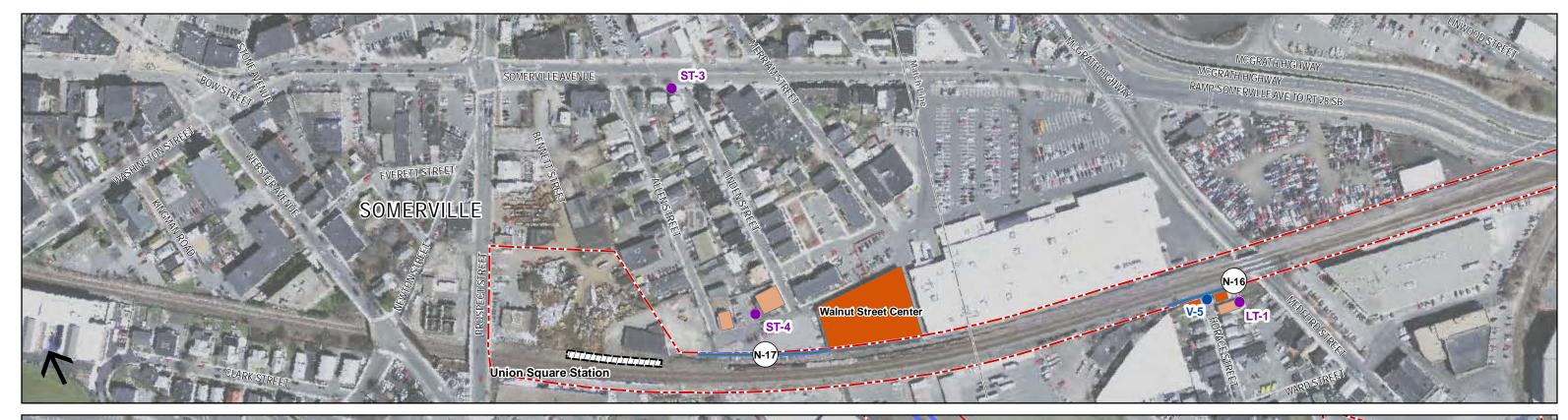
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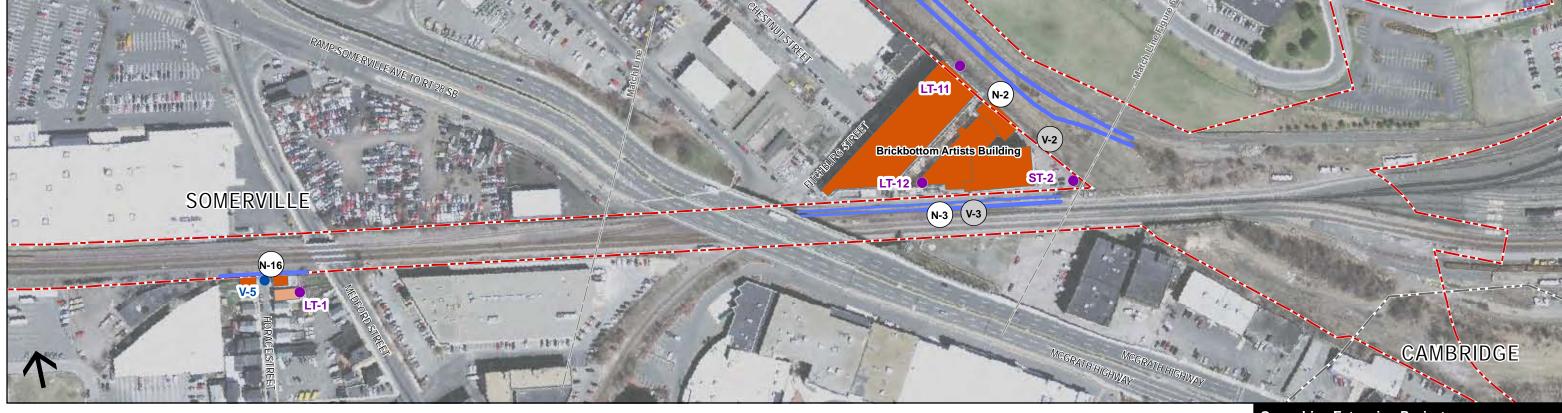
Figure 6.7-5

Noise Impacts and Mitigation Measures

Sheet 4 of 5

Sources: Harris Miller Miller & Hanson Inc.







Measurement Sites Noise Site

Vibration Site

Combined Noise / Vibration Site

Noise Impacts Prior to Mitigation

Moderate Impact

Severe Impact

Ground-borne Noise Impact

Proposed Mitigation

Noise Barriers

Sound Insulation Improvements

Green Line Track Vibration Isolation (for Noise)

Commuter Rail Track Vibration Isolation (for Noise) Noise Mitigation

Vibration Mitigation for Airborne Noise Vibration Mitigation for Ground-borne Noise Moving Massachusetts Forward.

Massachusetts Forward.

Moving Massachusetts Forward.

GLX

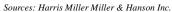
Green Line Extension Project

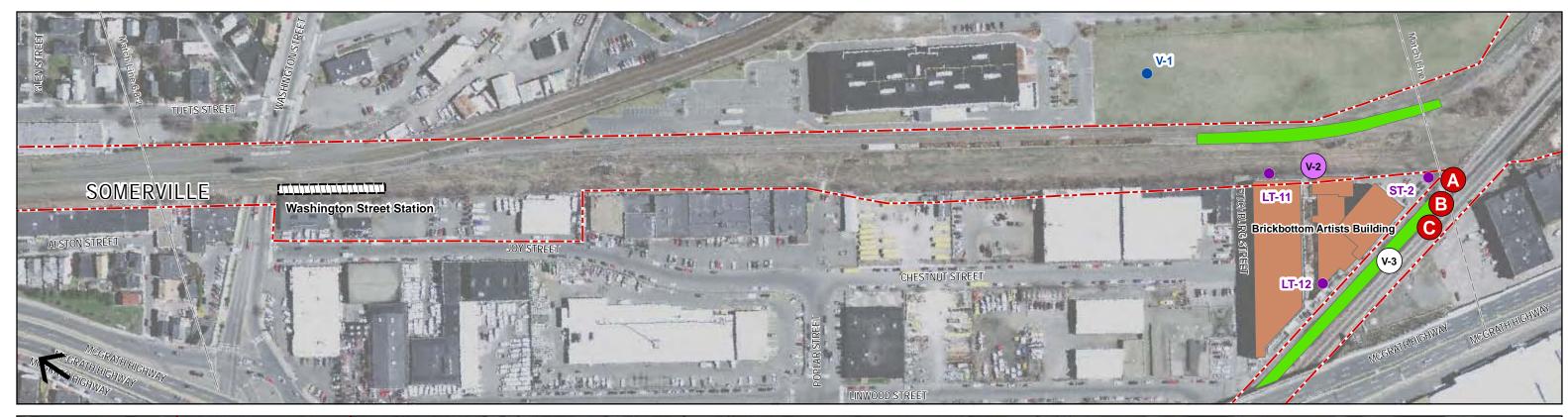
Figure 6.7-6

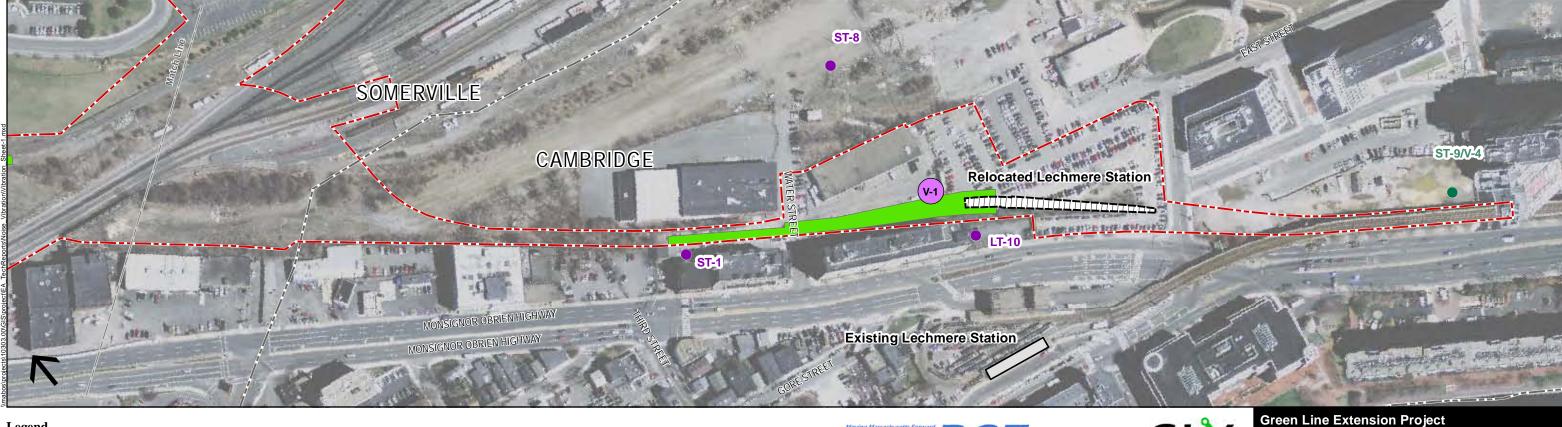
Noise Impacts and Mitigation Measures

Sheet 5 of 5









Project Study Corridor

Measurement Sites

Noise Site Proposed Station

Vibration Site

Combined Noise / Vibration Site

Vibration Impacts Prior to Mitigation

Vibration Impacts

Green Line Track Vibration Isolation Ground-borne Noise Impact

Proposed Mitigation

Commuter Rail Track Vibration Isolation

Vibration Mitigation Location

Vibration Mitigation for Ground-borne Noise

Special Trackwork Location (Crossovers and Turnouts)



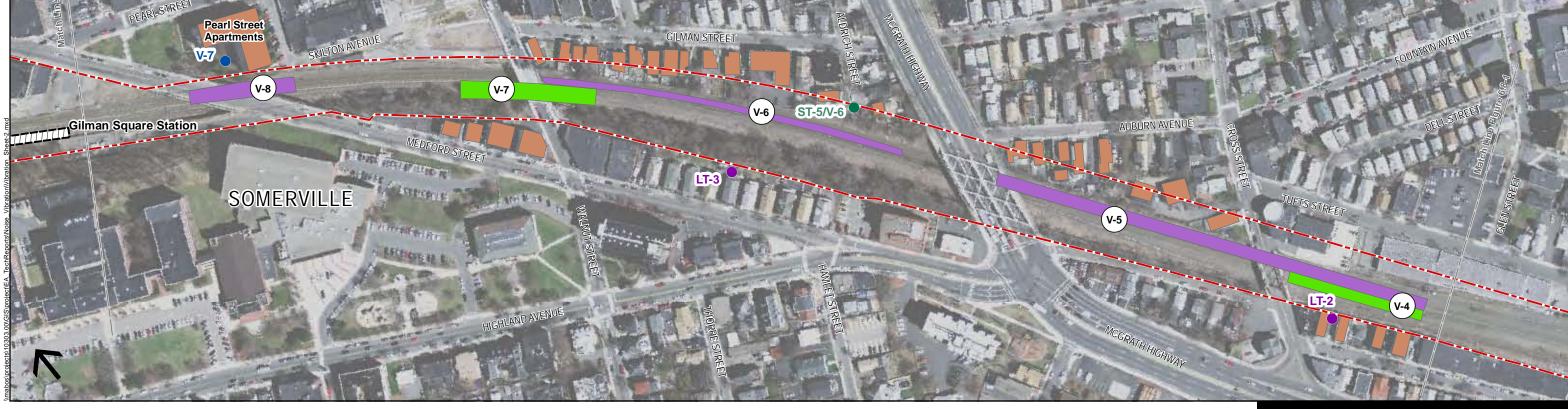
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Figure 6.8-1

Vibration Impacts and Mitigation Measures

Sheet 1 of 5





Moving Massachusetts Ferward.

MASS DOT

Legend

Project Study Corridor

Noise Site Proposed Station Vibration Site

> Combined Noise / Vibration Site

Measurement Sites

Vibration Impacts Prior to Mitigation

Vibration Impacts

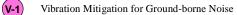
Ground-borne Noise Impact

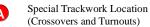
Proposed Mitigation

Green Line Track Vibration Isolation











Green Line Extension Project

Figure 6.8-2

Vibration Impacts and Mitigation Measures

Sheet 2 of 5

Sources: Harris Miller Miller & Hanson Inc.





Project Study Corridor

Proposed Station

Measurement Sites Noise Site

Vibration Site

Combined Noise / Vibration Site

Vibration Impacts Prior to Mitigation

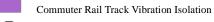
Vibration Impacts

Ground-borne Noise Impact

Potential Structural Damage

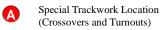
Proposed Mitigation

Green Line Track Vibration Isolation









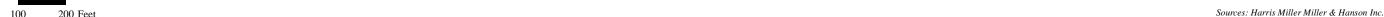


Green Line Extension Project

Figure 6.8-3

Vibration Impacts and Mitigation Measures

Sheet 3 of 5







Proposed Station

Combined Noise / Vibration Site

Measurement Sites Noise Site

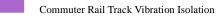
Vibration Site

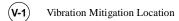
Vibration Impacts Prior to Mitigation Vibration Impacts

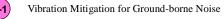
Ground-borne Noise Impact

Proposed Mitigation

Green Line Track Vibration Isolation







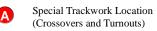


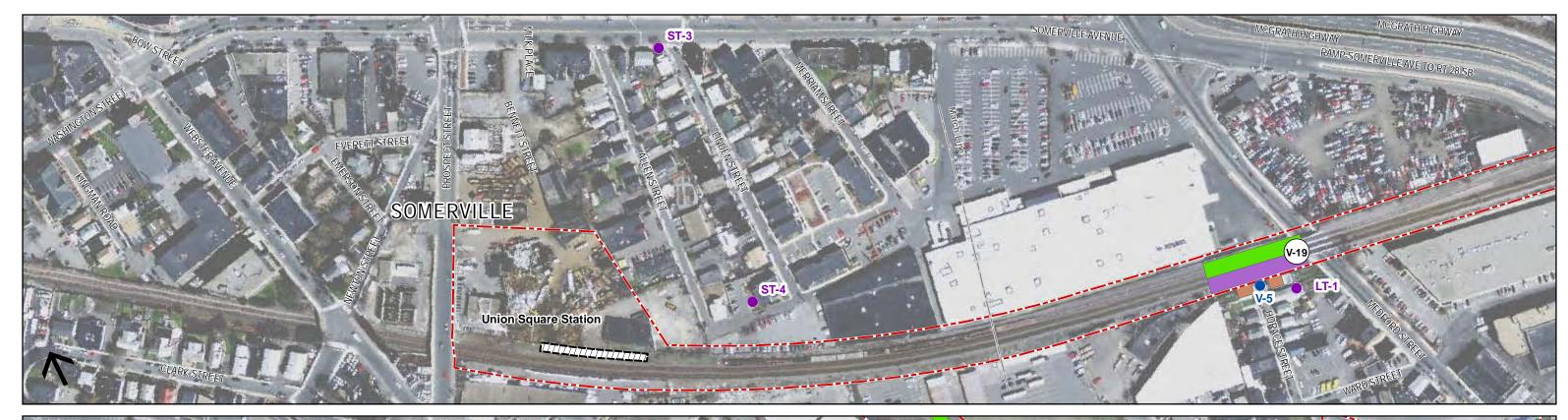


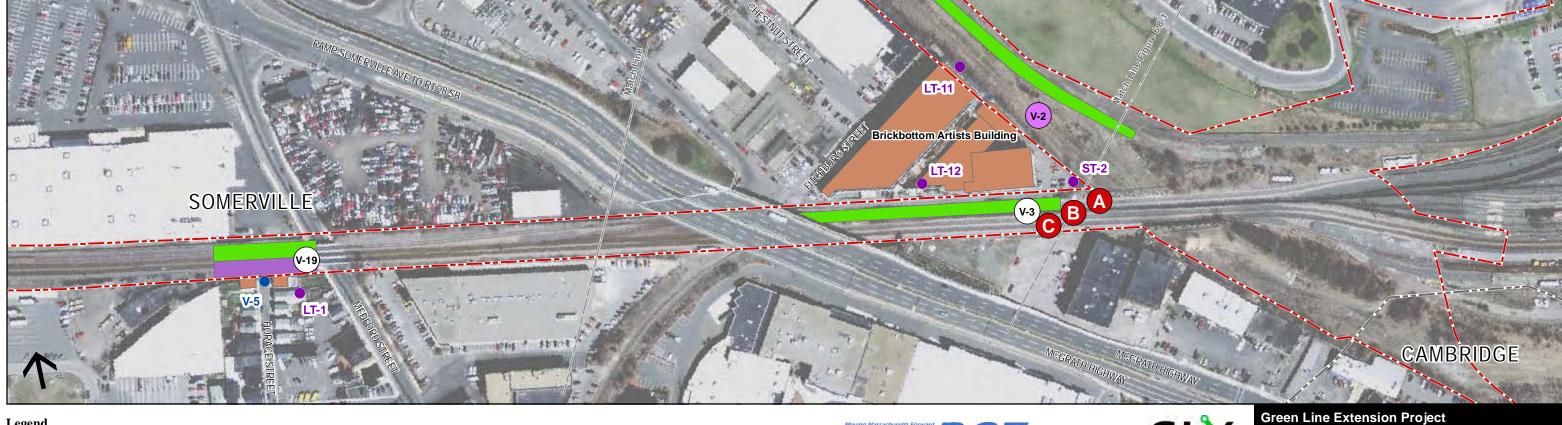
Figure 6.8-4

Vibration Impacts and Mitigation Measures

Sheet 4 of 5

Sources: Harris Miller Miller & Hanson Inc.





Project Study Corridor Proposed Station

Measurement Sites

Noise Site

Vibration Site

Combined Noise / Vibration Site

Vibration Impacts Prior to Mitigation

Vibration Impacts

Ground-borne Noise Impact

Proposed Mitigation

Green Line Track Vibration Isolation

Commuter Rail Track Vibration Isolation

(V-1) Vibration Mitigation Location

Vibration Mitigation for Ground-borne Noise

Special Trackwork Location (Crossovers and Turnouts)



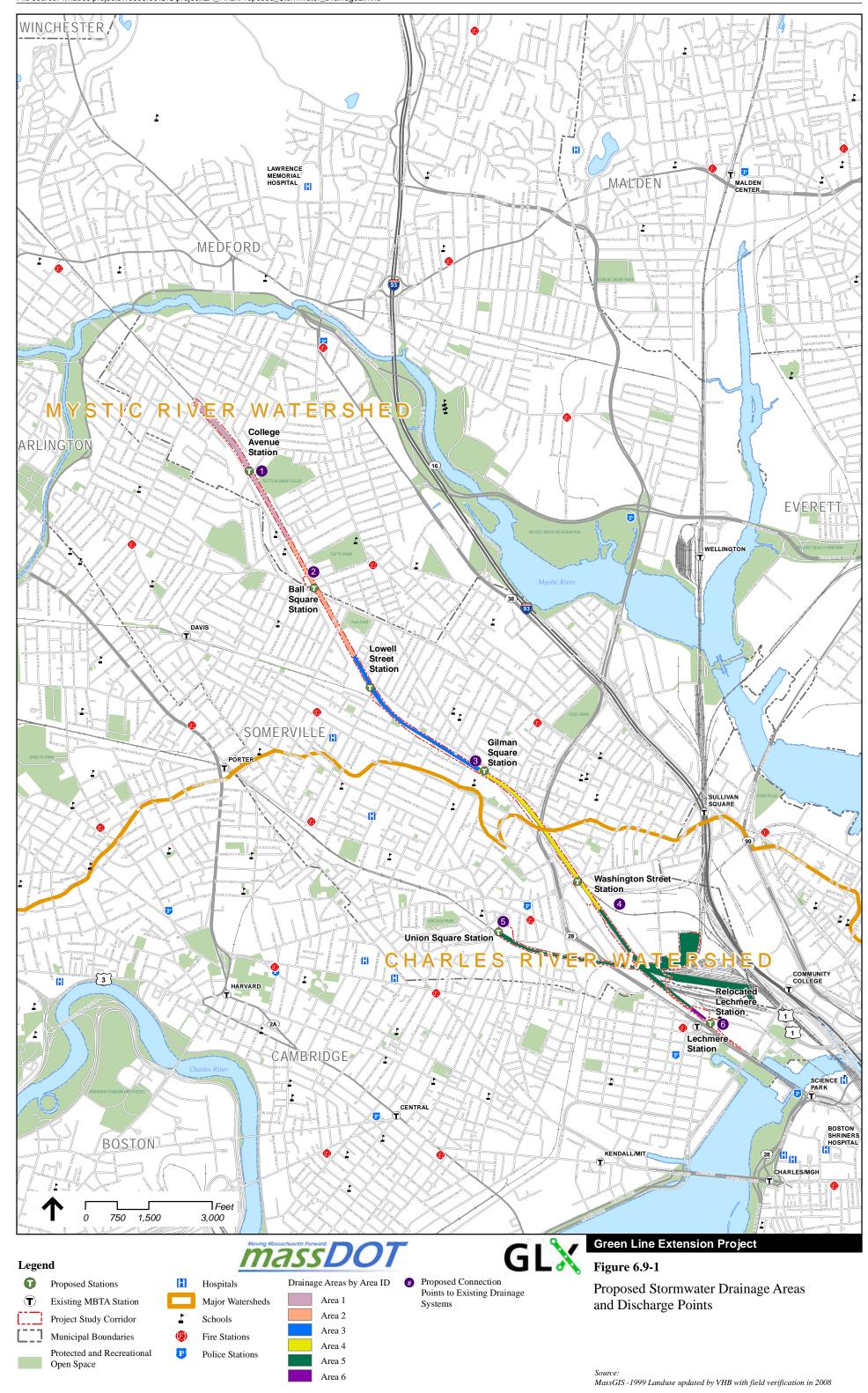
Sources: Harris Miller Miller & Hanson Inc.

Figure 6.8-5

Vibration Impacts and Mitigation Measures

Sheet 5 of 5

Moving Massachusetts Forward. DOT





Proposed Retaining Wall

Proposed Noise Barrier Potential Building

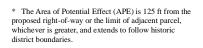
Noise Impact Sound Insulation ImprovementsRoadway Improvements

Traffic Mitigation Location

Property Evaluated to be Eligible, Property Determined to be Eligible, or Listed on the National Register

Area or District Boundary Evaluated to be Eligible, Determined to be Eligible, or Listed on the National Register

Municipal Boundaries Parcels



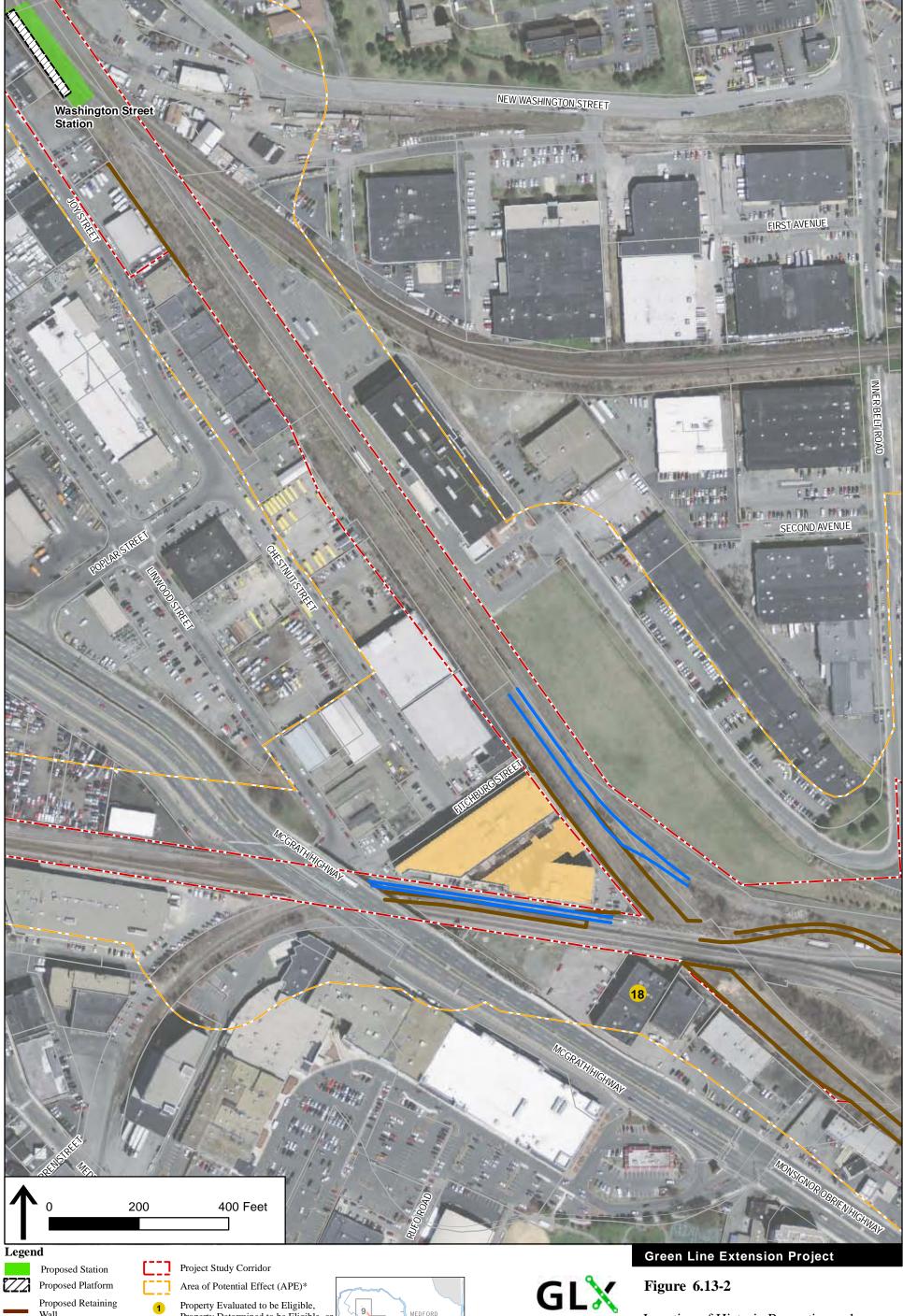




MEDFORD

Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures



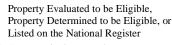


Proposed Retaining Wall

Proposed Noise Barrier Potential Building Noise Impact

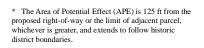
Sound Insulation ImprovementsRoadway Improvements

Traffic Mitigation Location



Area or District Boundary Evaluated to be Eligible, Determined to be Eligible, or Listed on the National Register

Municipal Boundaries Parcels





MEDFORD



Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures

Sheet 2 of 9

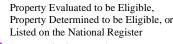


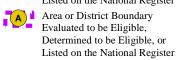
Proposed Retaining Wall

Proposed Noise Barrier Potential Building

Noise Impact Sound Insulation ImprovementsRoadway Improvements

Traffic Mitigation Location





Municipal Boundaries Parcels

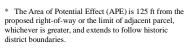




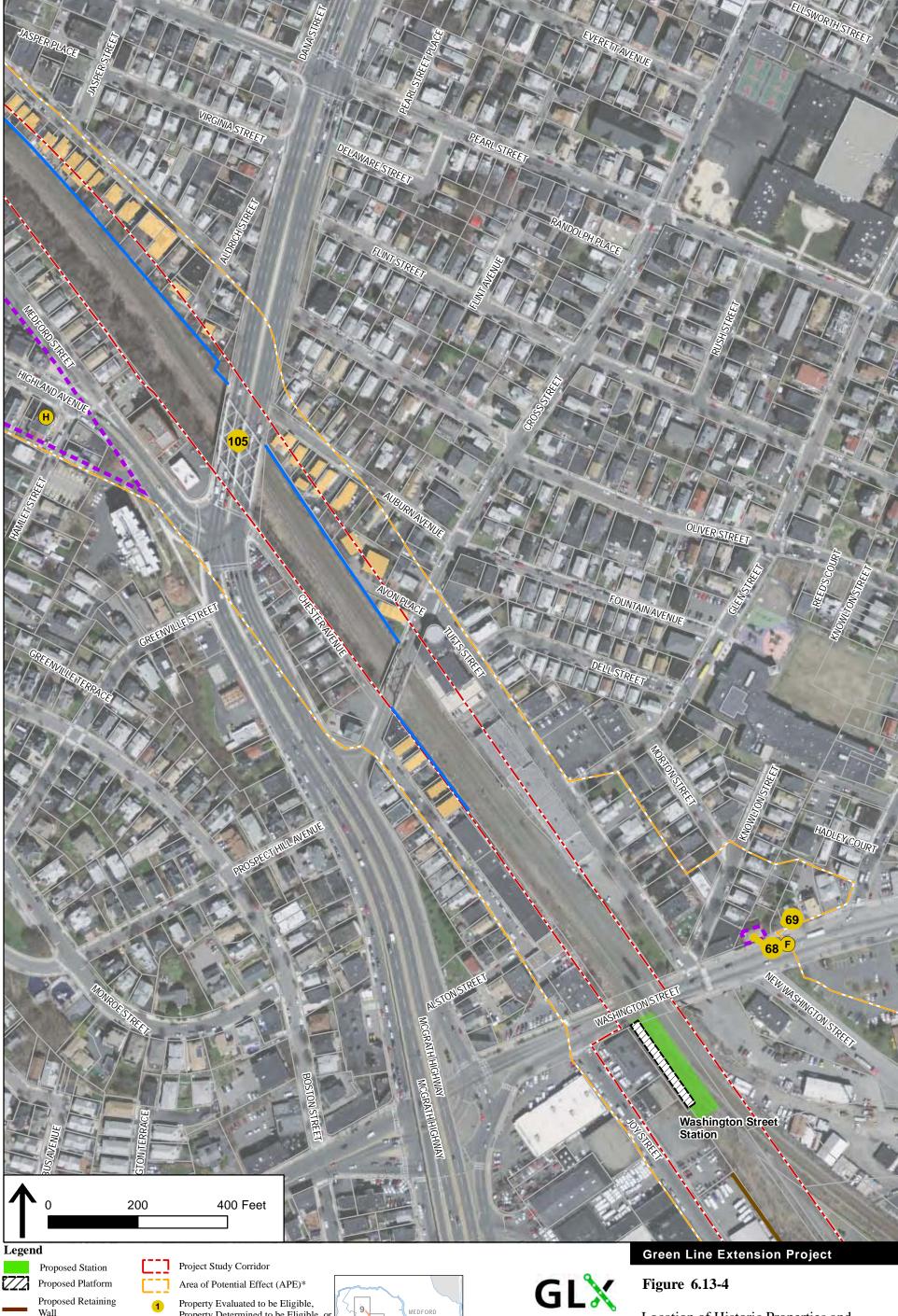




Figure 6.13-3

Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures

Sheet 3 of 9

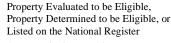


Wall

Proposed Noise Barrier Potential Building Noise Impact Sound Insulation

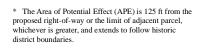
ImprovementsRoadway Improvements

Traffic Mitigation Location



Area or District Boundary Evaluated to be Eligible, Determined to be Eligible, or Listed on the National Register

Municipal Boundaries Parcels









Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures

Sheet 4 of 9



Municipal Boundaries

Parcels

Roadway Improvements

Location

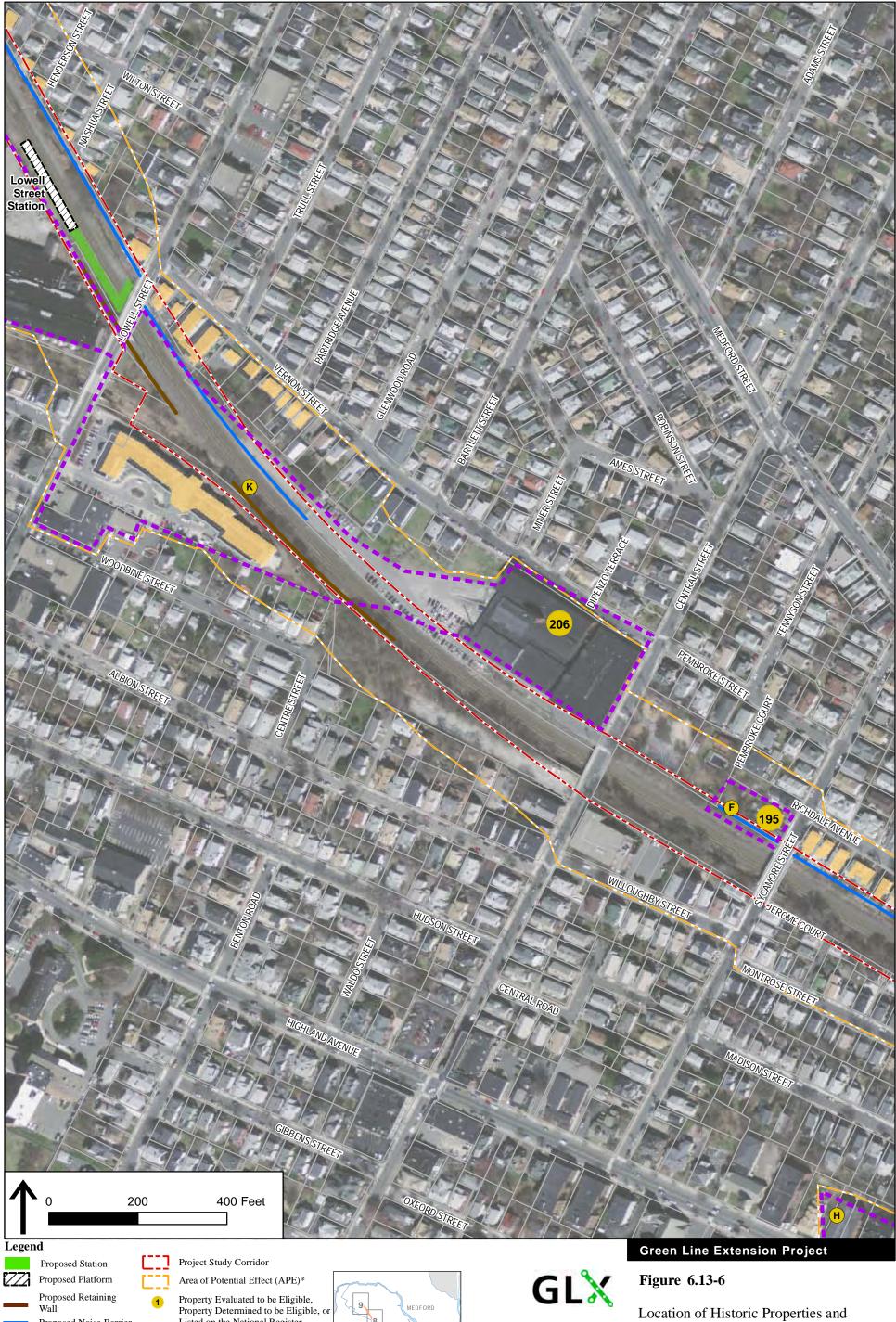
Traffic Mitigation

* The Area of Potential Effect (APE) is 125 ft from the proposed right-of-way or the limit of adjacent parcel, whichever is greater, and extends to follow historic district boundaries.





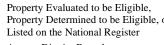
Sheet 5 of 9



Proposed Noise Barrier

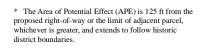


Traffic Mitigation Location



Area or District Boundary Evaluated to be Eligible, Determined to be Eligible, or Listed on the National Register

Municipal Boundaries Parcels

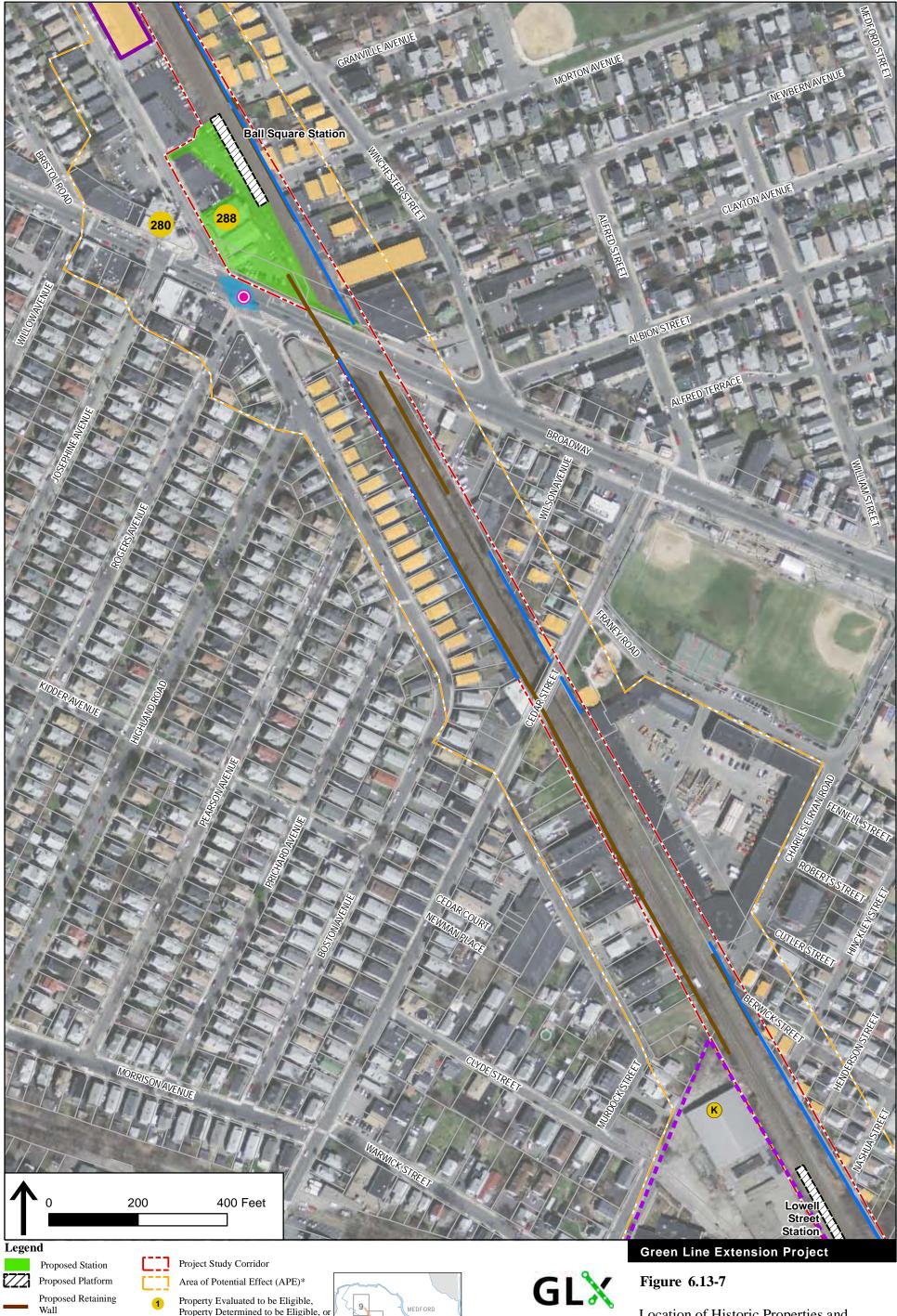






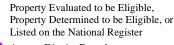
Proposed Noise and Traffic Mitigation Measures

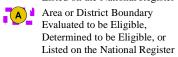
Sheet 6 of 9



Proposed Noise Barrier Potential Building Noise Impact Sound Insulation ImprovementsRoadway

Improvements Traffic Mitigation Location





Municipal Boundaries Parcels

* The Area of Potential Effect (APE) is 125 ft from the proposed right-of-way or the limit of adjacent parcel, whichever is greater, and extends to follow historic district boundaries.





Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures

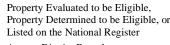
Sheet 7 of 9



Proposed Noise Barrier Potential Building Noise Impact Sound Insulation Improvements

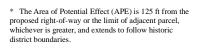
Roadway Improvements

Traffic Mitigation Location



Area or District Boundary Evaluated to be Eligible, Determined to be Eligible, or Listed on the National Register

Municipal Boundaries Parcels

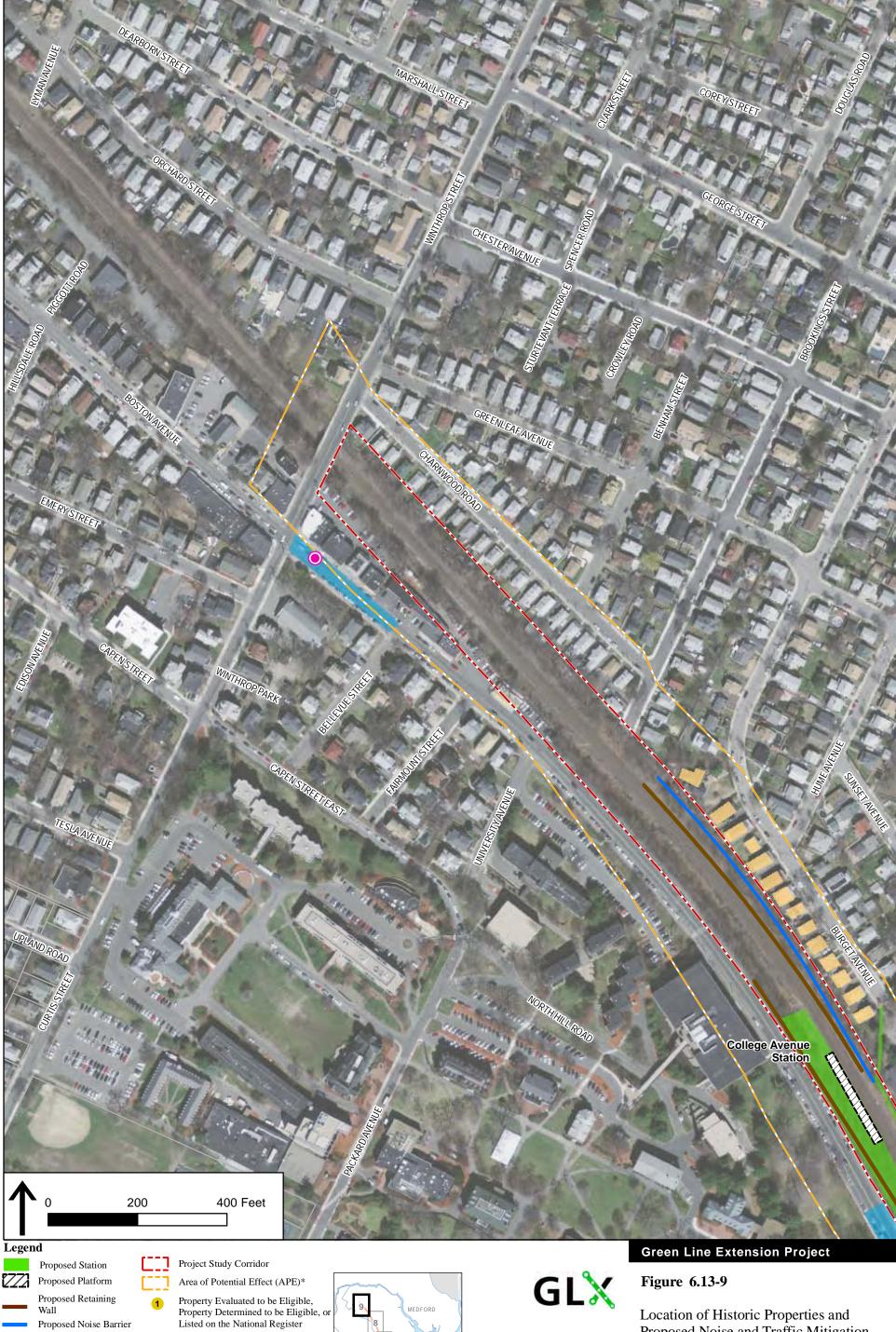






Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures

Sheet 8 of 9



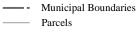
Wall

Proposed Noise Barrier Potential Building Noise Impact Sound Insulation Improvements

Roadway Improvements Traffic Mitigation Location



Area or District Boundary Evaluated to be Eligible, Determined to be Eligible, or Listed on the National Register



* The Area of Potential Effect (APE) is 125 ft from the proposed right-of-way or the limit of adjacent parcel, whichever is greater, and extends to follow historic district boundaries.

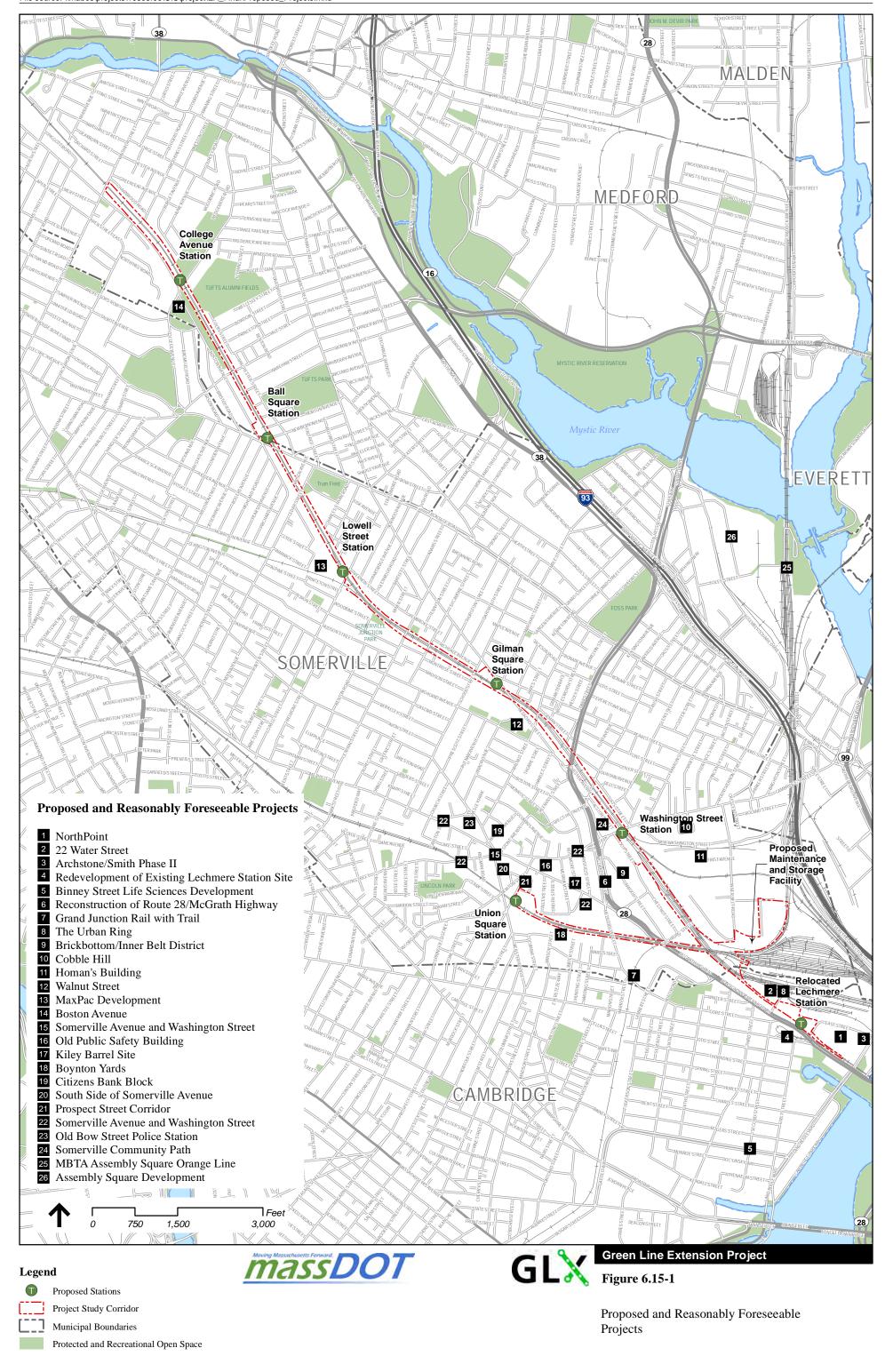






Location of Historic Properties and Proposed Noise and Traffic Mitigation Measures

Sheet 9 of 9















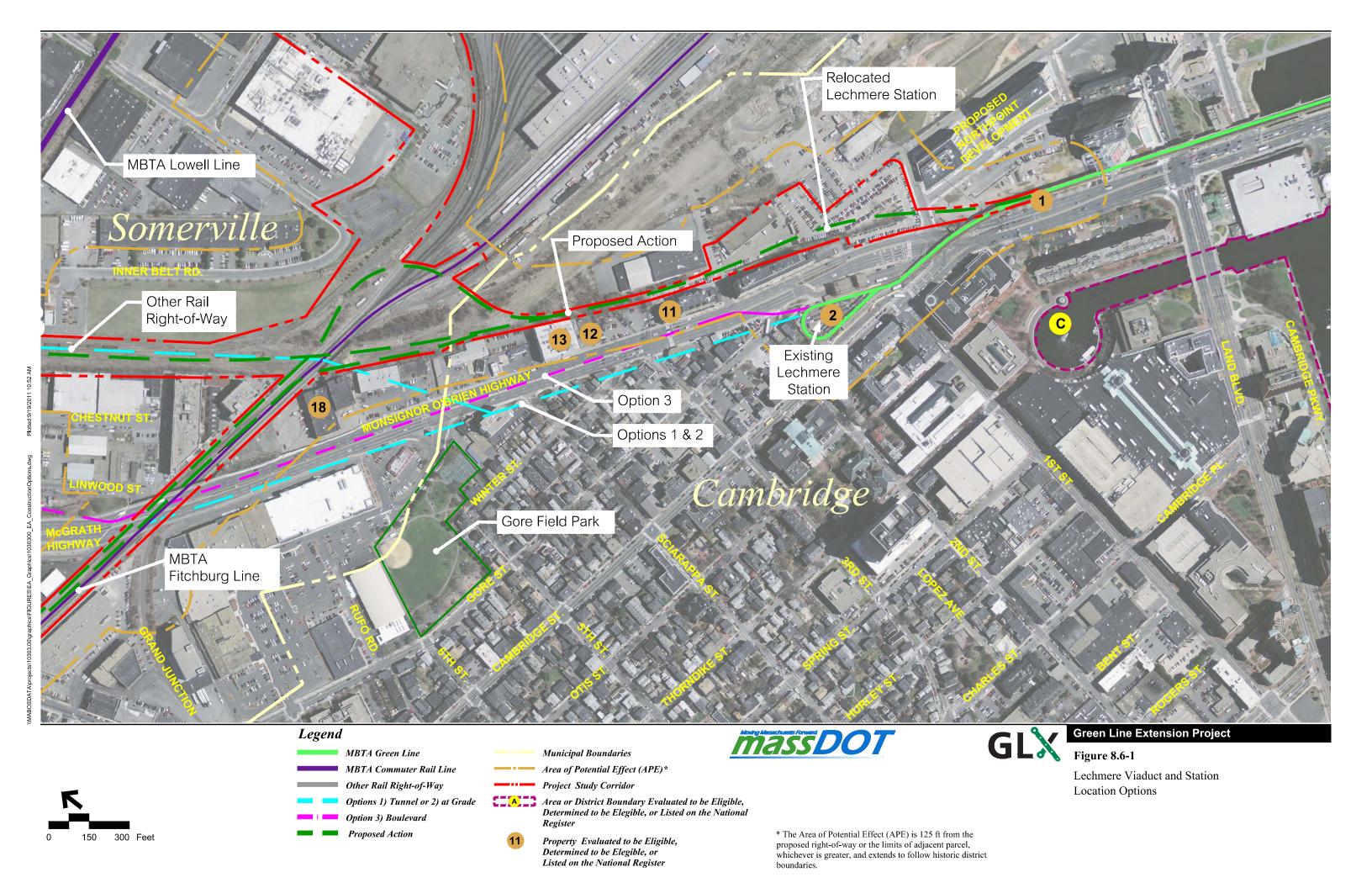


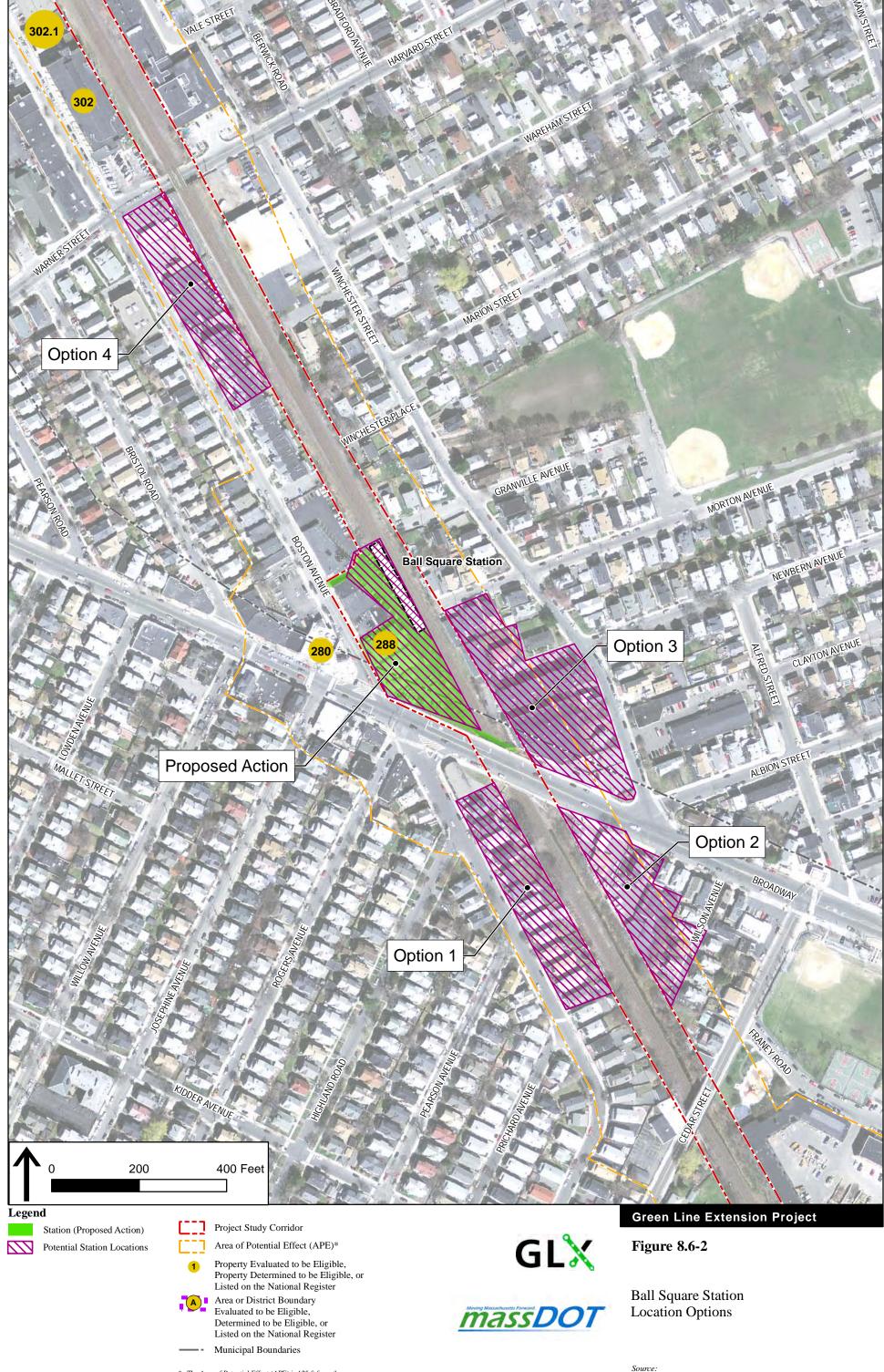


Green Line Extension Project

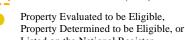
Figure 7.7-1

Examples of Noise Barrier Materials



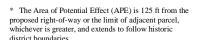


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Listed on the National Register Area or District Boundary Evaluated to be Eligible, Determined to be Eligible, or Listed on the National Register

Municipal Boundaries





Massachusets Forward.

Massachusets Forward.

Moring Massachusetts Forward.

Gilman Square Station **Location Options**

